Population Bulletin

The Changing American Family

By Arland Thornton and
Deborah Freedman

A publication of the Population
Reference Bureau, Inc.
Vol. 38, No. 4
October 1983

ISSN 0032-468X

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Abstract—This *Bulletin* documents recent changes in American family patterns resulting both from long-term trends in urbanization, industrialization, and economic growth and the disruption of the Great Depression and World War II, as well as changed attitudes toward marriage, parenthood, divorce, and the roles of women. Following a postwar boom in the 1950s and 1960s, marriage rates have now fallen to levels observed in the early 20th century. Since 1970 the number of unmarried couples living together has more than tripled to 1.9 million in 1983. The divorce rate has now stabilized after more than doubling since 1960, but at the current level, half of all recent marriages will end in divorce. Most divorced persons remarry fairly quickly, often creating complex families of "step-relatives." With 19 percent of households with minor children now headed by a woman with no husband present, up to half of all children will live for some time in a fatherless family before reaching age 18. Over half of all married women, including 49 percent of married mothers of preschool children, now hold a paid job outside the home. Working wives boost a family's income by an average 40 percent but still are expected to shoulder most responsibility for home and child care. White women now in their twenties say they expect to have an average of two children, but are delaying childbearing to such an extent that 29 percent could end up childless. Most of the elderly live on their own but usually near children whom they see frequently. Despite changes in traditional family patterns, Americans consistently report that a happy marriage and good family life are the most important aspects of life. And though most Americans now live with few or no family members, they maintain active contact with a large network of kin.

Editor: Jean van der Tak Graphics: George Hager

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The suggested citation, if you quote from this publication is: Arland Thornton and Deborah Freedman, "The Changing American Family," *Population Bulletin,* Vol. 38, No. 4 (Population Reference Bureau, Inc.: Washington, D.C., 1983). The figures and tables from the *Bulletin* may be freely reproduced provided credit is given to the Population Reference Bureau and a copy of the publication in which they appear is forwarded to the PRB.

The *Population Bulletin* is indexed in *GEO Abstracts, Population Index, Social Sciences Index,* and *Social Sciences Citation Index.* It is included in the coverage of *Current Contents/Social and Behavioral Sciences,* Biosciences Information Service of Biological Abstracts, and the CICRED UNFPA *Review of Population Reviews,* and is available on microfilm from Xerox University Microfilms, 300 North Zeeb, Ann Arbor, MI 48106. Selected *Bulletins* are also included in the coverage of and available in microfiche through ERIC Systems.

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POPULATION BULLETIN

Vol. 38, No. 4, October 1983

Art Haupt

Despite changes in traditional family patterns, Americans consistently report that a happy marriage and a good family life are the most important aspects of life.

The Changing American Family

By **Arland Thornton** and **Deborah Freedman**

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The authors gratefully acknowledge the research assistance of Lenore Pienta, Dawn Haavisto, and Scott Gordon in the preparation of this Bulletin *and the secretarial help of Marge Dalian.*

Some of the issues most fiercely contested in the American public arena during the past decade have focused directly on central aspects of the family. The battle over the Equal Rights Amendment concerned appropriate roles for men and women and the allocation of opportunities and rewards by gender. The abortion controversy bears directly on the reproductive function of the family, while the debate over sex education in schools and birth control for minors involves not only teenage sexual activity and childbearing but also the right of public organizations to intervene in relationships between parents and children. Important elements in these controversies concern the relative roles of public and familial supports for individual Americans and the extent to which governments should influence familial matters.

This surge of interest in family issues mirrors the magnitude of the changes occurring in family values and behavior. Although the family continues to be a central institution in American society, the shape of the institution is changing in ways that are influencing most Americans. Consider the following:

- Fifty-six percent of women aged 20-24 in 1983 have never been married, compared to only 36 percent of women this age in 1970.
- The number of unmarried couples living together has more than tripled since 1970 to nearly 1.9 million in 1983.
- Half of all recent first marriages will end in divorce if current rates continue, and up to half of all children will experience living in a fatherless family before they reach age 18.

- Currently, 19 percent of households with children under 18 are headed by a woman with no husband present.
- Over half (51 percent in 1982) of all married women now hold a paid job outside the home, including 49 percent of married mothers of preschool children.
- Median income for married-couple families with a working wife was $30,300 in 1982, compared to $21,300 where only the husband worked.
- Young white women now in the prime childbearing ages of the twenties say they expect to have an average of two children but are delaying the start of their families to such an extent that nearly 30 percent of them could end up childless.
- Eighteen percent of all births in 1980 were out of wedlock.

These trends affecting family patterns have had major repercussions on many aspects of American life, ranging from changes in divorce laws and marital settlements to the new political force of the women's vote and a proliferation of new products and advertising strategies aimed at two-earner families. The impact of family changes on individuals are demonstrated by the growth of organizations designed for people living in nontraditional family situations—the National Association of Step Parents, Mothers Without Custody, Equal Rights for Fathers, Parents Without Partners, and Fathers Who Care. A stream of new books provides advice on surviving divorce, combining motherhood and a career, being a successful stepparent, and being a single adult. The changes seem so great that many Americans have begun to wonder if the very institution of the family will survive.

In this *Bulletin,* we document some basic past and current trends in family life and values in the United States. Some current trends are similar to the past, but many are indeed marked changes. However, the family is resilient, family ties remain strong, and Americans consistently report that a happy marriage and a good family life are the most important aspects of life.

Marriage and Divorce

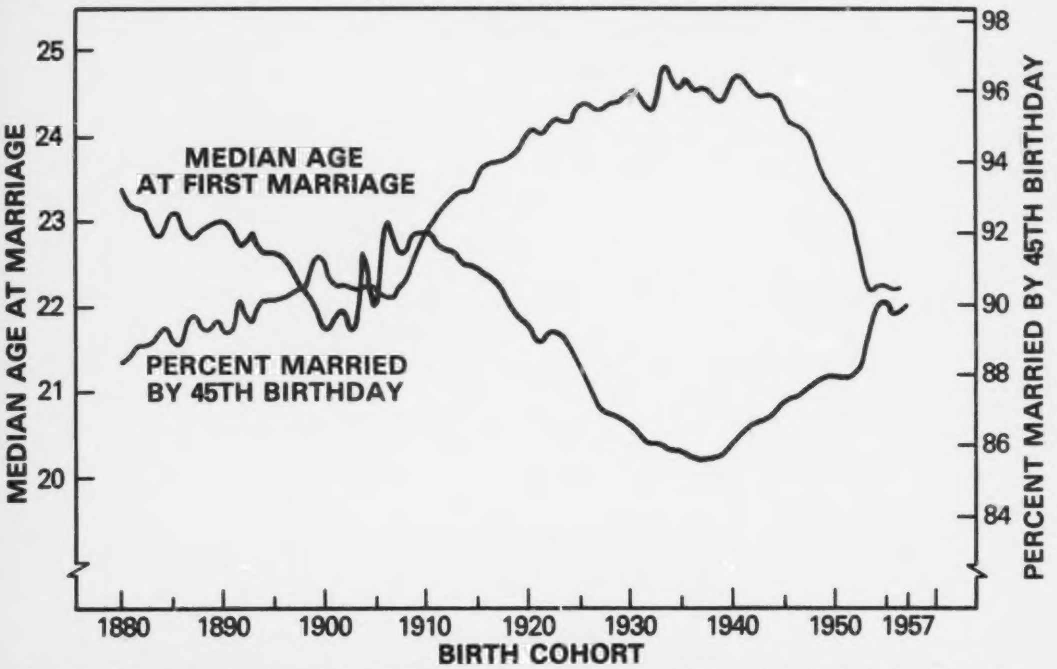
In the United States, marriage has traditionally marked the creation of a new family. Typically, families have been formed when previously unmarried persons join together in marriage. Marriages, however, do not last forever and eventually are dissolved, either by the death of a spouse or voluntarily through divorce. Important for the institution of the family is how long marriages last, on average, until dissolved, and whether the most frequent cause is death or divorce. Marital dissolution, however, does not signal the end of the marital experience for many former partners. Most formerly married Americans enter into a new marriage fairly quickly, thus revealing a preference for the married state. Recently another type of arrangement has become more common—couples living together without getting married.

First marriage

First marriage patterns have gone through a wave of change since World War II. Except for a brief upturn at the end of World War I and a sharp decline during the Depression of the 1930s, first marriage rates were quite steady during the first four decades of this century. But after World War II came the "postwar marriage boom"—a substantial, pervasive increase in marriage rates that helped spawn the baby boom. The rates remained high through the 1950s and 1960s and then fell sharply again during the 1970s and now have begun to stabilize at levels very similar to those of the first few decades of the century.[1]

Figure 1 shows how the postwar marriage boom reshaped the pattern of first marriage in America. Median age at first marriage fell dramatically—from about 23 for white women born in the 1880s to just over 20 for those born in the late 1930s, who married in the late 1950s and early 1960s. The proportion of people ever marrying also increased. While

Figure 1. Median Age at First Marriage and Percent Married by Age 45, Birth Cohorts of White Women: 1880-1957



Source: Arland Thornton and Willard L. Rodgers, *Changing Patterns of Marriage and Divorce in the United States*, Final Report to the National Institute for Child Health and Human Development, Ann Arbor, 1983, Tables 2-1 and 2-5.

about 11 percent of white women born during the 1880s had not married by age 45, only about 3 percent of those born in the late 1930s remained single at that age. However, the marital patterns of more recent "birth cohorts" are close to those observed early in the century. Median age at marriage for white women born during the 1950s has increased to around 22, and it now appears that about 10 percent, and possibly more, will never marry. In 1983, 56 percent of all American women aged 20-24 still had not married, compared to just 36 percent of women that age in 1970.[2]

The marriage boom was both more substantial and longer-lasting for men than for women. While the average age at marriage fell about three years for women, the decline was about four years for men—from about age 27 to 23. In addition, marriage rates for women declined somewhat during the 1960s but the rates for men held fairly steady. This can probably be attributed to the "marriage squeeze"—a phenomenon caused by a shortage of men relative to the number of women in the prime marrying years. The shortage resulted because the number of babies born each year as the baby boom mounted from 1947 was larger than the number born the year before and women tend to marry men two to three years older than themselves. Thus, there was an insufficient number of older men from which the women in each of these successively larger birth cohorts could choose their mates.

Prior to World War II, similar proportions of blacks and whites married, but blacks tended to marry at earlier ages. However, the postwar marriage boom was not as marked for blacks as for whites, especially at the younger ages, and average age at first marriage is now higher for blacks than for whites.[3]

The timing of marriage relative to school attendance and employment also changed markedly after World War II. Previously, the transition to adulthood had been made in a fairly regular and orderly fashion; most men and women finished their schooling and most men began to work before marrying. But after the war many young people chose to marry while still in school and before beginning work.[4]

Part of this shift was linked to the postwar expansion of education, which increased educational attainment and thus the age of school completion. Although educational opportunities and attainment had expanded somewhat before the war, still in 1940 only 36 percent of men and 40 percent of women aged 25-29 had completed four years of high school, and just 7 percent of men and 5 percent of women had completed four years of college. By 1979, 85 percent of both men and women in this age group had completed high school, and one-fourth of men and one-fifth of women had completed college.[5] This increase in educational attainment added to the decline in age at marriage in the postwar era meant that many more people married before finishing their education; nearly a fourth of the men born during the 1930s did so, compared to less than a tenth of those born two decades earlier.[6] With age at marriage now rising, this trend has been reversed, but there is unlikely to be a return to the prewar pattern of nearly universal postponement of marriage until after school completion, unless age at marriage increases enough to offet the current high levels of education.

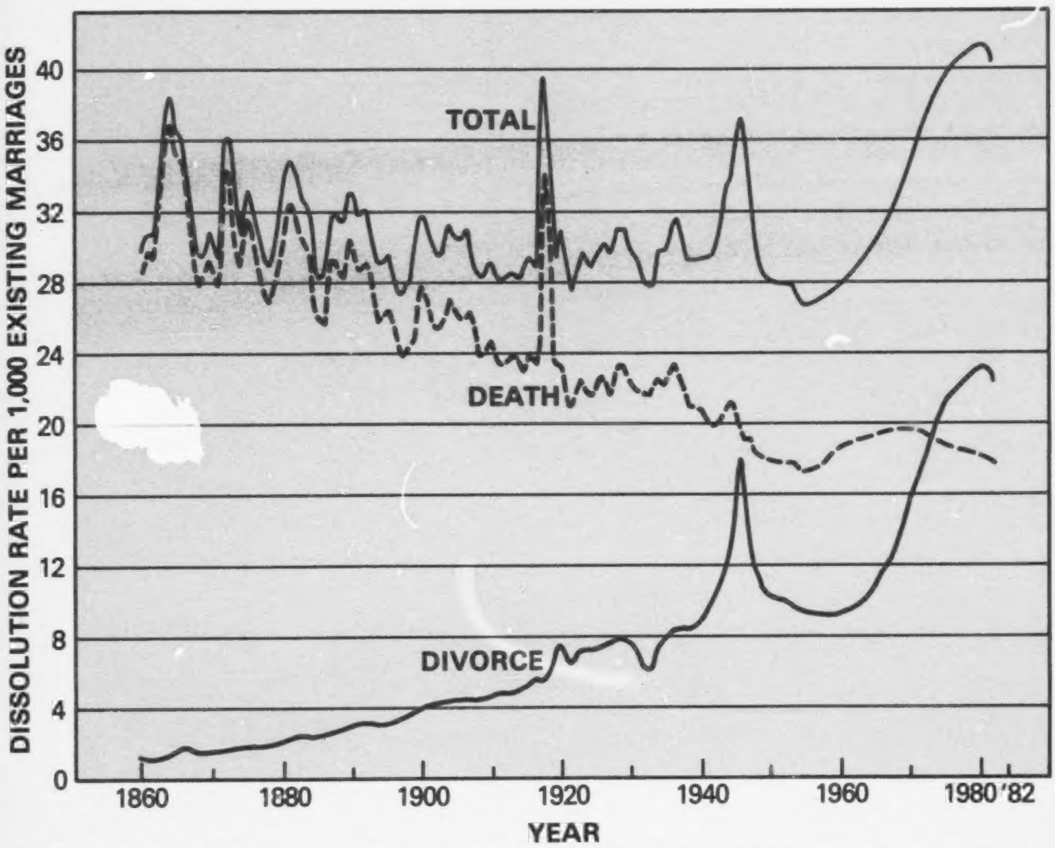
Attitudes toward marriage and remaining single have changed markedly along with the changes in marital patterns. The legitimacy of remaining single is increasingly accepted by both young people and their parents; Americans no longer regard getting married as necessarily better than remaining single. A 1976 national study found that only a third of all Americans would disapprove of a decision by someone to remain single—a decline from 50 percent in 1957. Although most young people now say that they would be bothered at least a little if they did not marry, only a few say they would be greatly bothered by that outcome. Mothers also report that they would not be greatly bothered if their children did not marry.[7]

Harold M. Lambert

Marriage was early and virtually universal during the postwar marriage boom, but now young Americans are postponing marriage and 10 percent or more may never marry.

Although the imperative to marry has weakened, marriage continues to be highly valued by Americans. Americans consistently report that a happy marriage and a good family life are the most important aspects of life. Most young Americans still expect to marry; a 1980 study found that more than 90 percent of American youth expect to marry—a proportion similar to that found in 1960. Most young Americans are also optimistic about the permanency of their marriages. However, marital plans have changed to parallel the increases in actual marriage ages; between 1960 and 1980 the median age at which young people expect to marry increased by a year for men and a year and a half for women.[8] Even though most young Americans value marriage and plan to marry, the fact that they accept the legitimacy of single life and plan

Figure 2. Marital Dissolutions per 1,000 Existing Marriages, by Divorce, Death, and Total: 1860-1982



Sources: 1860-1956: Paul H. Jacobsen, *American Marriage and Divorce* (New York: Rinehart, 1959); 1957-1982: rates estimated by the authors.

to postpone their own marriages may result in an increase in the percentage who never marry.

Divorce

Marital conflict and divorce have been recognized as serious social concerns since as far back as the late 18th century. But, while marital incompatability has always been with us, Figure 2 shows that, except for a sharp but temporary increase after World War II, the actual rate of divorce in the United States increased only gradually and steadily, with some minor fluctuations, from 1860 to the early 1960s. Then came two decades of sustained and rapid increase, with the rate more than doubling, so that by the end of the 1970s more than 2 percent of existing marriages were being terminated by divorce each year. Then the rate leveled off and there was even a slight decline in 1982. Actual *numbers* of annual divorces climbed to a record 1.21 million in 1981 and then also dipped 3 percent to 1.18 million in 1982—the first decline since 1962.[9]

The forces behind the surge in divorce during the 1960s and 1970s were not only strong but also pervasive, affecting all races and age groups about the same. Thus, the divorce differentials observed in the 1950s—less divorce among whites than among blacks and less among older persons and those married at later ages—persisted through the 1970s.[10]

The rapid increase in divorce has meant that, while 29 percent of the couples married in 1952 were divorced by their 25th wedding anniversary, couples married in 1957 took only 20 years to experience a similar attrition, those married in 1962 took only 15 years, and among couples married in 1967, 28 percent were divorced after ten years of marriage. Almost half of the marriages of 1973 will end in divorce if the divorce rates of 1977 were to continue, compared to only about 5 percent of the marriages of the 1860s. For black Americans the current proportion is even higher; as many as two-thirds of all recent marriages of black Americans could be terminated by divorce if current rates continue.[11] Black couples are also much more likely to separate than white married couples.

Of course, marriages are also terminated when one spouse dies. From 1860 through the mid-1960s, the increasing divorce rate was generally offset by the declining death rate. Consequently, except for unusual fluctuations in mortality and divorce, the total marital dissolution rate remained roughly constant or even declined somewhat over this century (Figure 2). During the 1960s and 1970s, however, the rapid increase in divorce outstripped the decline in mortality, resulting in an increase in the total marital dissolution rate.

Children of divorce

One of the most serious consequences of the high divorce rate is its effect on the lives of children. Over a million children are affected by divorce each year in the United States. The 1.2 million children whose parents divorced in 1979 represented nearly 2 percent of all children under age 18. The exposure of children to marital disruption is not a recent phenomenon, however. Some 25 to 30 percent of all children born during the first half of this century experienced the disruption of their parents' marriage before they reached age 18, with the main reason shifting over time from mortality to separation and divorce. However, the marked rise in divorce during the 1960s and 1970s has increased the total exposure of children to family dissolution. Dissolution rates of the late 1970s imply that about one of every three white children and two of three black children born after marriage will experience a parental marital dissolution by age 16. Most children of divorced parents live with their mother, and the majority will experience living in a fatherless home for at least five years. Furthermore, this experience is not necessarily ended when the mother remarries; approximately one-third of white and one-half of black children whose mothers remarry will experience a second parental marital dissolution before they reach adulthood.[12]

Reasons for the high divorce rate

It would be easy to interpret the increase in divorce as a sign of deteriorating family life and declining marital happiness, but there are other possible reasons: people may now expect more of marriage and thus be more aware and less tolerant of their marital problems; Americans may now be more accepting of divorce as a solution to an unhappy marriage; and changes in laws and economic circumstances have made divorce more feasible. One study suggests that marital happiness has actually increased; the proportion of people saying that their marriage was either very happy or above average went up from 68 percent in 1957 to 80 percent in 1976.[13] While this finding probably partly reflects the fact that more unhappy marriages were terminated by divorce during the 1970s than in the 1950s, it also raises doubts about a general decline in marital happiness.

The same study also showed that the proportion of people perceiving problems in their marriage increased at the same time—from 46 percent in 1957 to 61 percent in 1976. But this probably reflects not so much an increase in marital problems as the greater expectations for marriage which now make people less tolerant of ordinary difficulties in their own marriages

Generally negative attitudes toward divorce have been declining as Americans have become more willing to see it as a solution in specific cases. The extent of this shift is illustrated by a study in which 82 percent of women interviewed in 1980 disagreed with the statement: "When there are children in the family, parents should stay together even if they don't get along"; only 51 percent of these same women disagreed with this in 1962. Preferences for easier divorce laws have also increased recently.[14] Of course, this apparently greater acceptance of divorce could be more a consequence than a cause of increasing divorce.

The increase in women's labor force participation and decline in family size probably have made it easier for Americans today, especially women, to obtain a divorce. Changes in marital laws have also facilitated divorce. In fact, the spiraling divorce rate has been a major contributor to the veritable revolution in family law. The first no-fault divorce law was passed in 1969 in California, and by 1980 all but Illinois and South Dakota had adopted some form of no-fault divorce.[15] This has made moral issues less relevant in divorce litigation, while property division and child custody rights have become the important concerns. At the same time, the incidence of family litigation has exploded: "Surveys show that roughly half the cases on civil court dockets are family law cases, largely a result of the higher divorce rate."[16]

For divorced women, financial problems loom large. The payment of alimony (now generally called "spousal maintenance") has never been common.[17] Alimony now is probably awarded only rarely, and then primarily to help the wife temporarily until she can get a job. On the other hand, judicial rulings regarding the division of marital property have become more equitable for women. Until very recently, all but the few "community property" states followed English common law and awarded property in a divorce to the person whose name appeared on the title, usually the husband. Now most states have adopted more equitable distribution laws for divorce settlements, with the definition of equitable sometimes spelled out as equal, but more often left to judicial decision. The definition of marital property remains in flux; pension benefits, medical benefits, seniority rights, and military pensions have been included. Still controversial and currently the subject of litigation is whether the value of professional degrees and careers can be quantified and included in marital settlements. Judges still award child-support payments, but in 1982 only 69 percent of white women and 34 percent of black women who had minor children from an absent father had been awarded or had an agreement to receive such payments.[18]

Despite legal shifts toward more equitable property settlements, wives typically find themselves financially much worse off than their former spouse after a divorce.[19] The family assets to be divided are not large in many marriages. No-fault divorce laws have restricted wives in more prosperous families from bargaining for a favorable financial settlement in exchange for an uncontested divorce. Child-support awards, while important for divorced mothers, often are not large and frequently are not paid. In 1981, only 75 percent of divorced and separated women due child-support payments actually received any and the average payment for the year was about \$2,300.[20] Only about half of payments are ever made in full, and for women whose marriages have been terminated for several years the payment rate is even lower. Collecting delinquent payments is expensive, time-consuming, and difficult for divorced mothers. Federal and state governments now have programs to enforce child-support decisions, but they provide only marginal relief to divorced women. Meanwhile, in job markets still generally tilted against women, many divorced women have trouble finding a job that pays enough to support a family, especially those who have been out of the labor force for some time. With all this, divorce now constitutes a major cause of poverty among women and their children.

Judicial decisions regarding child custody have also changed. Until the middle of the 19th century, children automatically went to their fathers, but as economic conditions changed, the laws were modified to award custody to mothers as the natural nurturers of children during their "tender years." In most states, judges now make custody decisions on the basis of the child's best interest. Mothers still obtain custody in about nine out of ten cases, but fathers more often seek custody, and joint custody—now legal in 28 states—is an option viewed more favorably by many judges. Meanwhile, litigation over custody and visitation rights has increased greatly. Grandparents also now go to court to obtain the right to visit with their grandchildren.

Remarriage

Most family scholars believe that divorce stems from dissatisfaction with a specific spouse and does not represent disillusionment with marriage as an institution. Most divorced people remarry, so the remarriage rate following divorce has been very high in the United States—generally exceeding the first marriage rate. Many of these remarriages occur fairly soon after divorce; for example, about half of all women who divorce while still relatively young remarry within three years and from 60 to 70 percent remarry within five years.[21] Men, however, are more likely than women to remarry eventually after divorce and remarriage rates are also higher for younger than for older divorced people.

Remarriage rates among black Americans are considerably lower than those of whites. One national study of young ever-separated women found that two-thirds of the white women had remarried by the interview in 1970, but only about one-third of the black women. This disparity reflects the fact that blacks are both more likely than whites to remain separated without divorcing and less likely than whites to remarry after a divorce.[22]

Most divorced people remarry.

By 1977, 43 percent of all new marriages were remarriages for one or both of the partners, up from 32 percent of marriages in 1969, and in 1980, 20 percent of all existing marriages included at least one previously divorced spouse.[23] Many of these remarriages involve people who have been married at least twice before.

In earlier times, remarriages usually involved people whose former spouse had died. These families were complex, often including stepparents and stepchildren and siblings related only through marriage or who shared only one biological parent. Now remarried families have become both much more numerous and more complicated because most remarriages involve divorced persons whose former spouses are still alive and living elsewhere, often with children from that marriage. A recent study estimated that in at least 40 percent of remarriages with partners in their thirties, one of the partners, usually the husband, has a child from a previous marriage who is living elsewhere.[24] In these cases a central family relationship—that between parent and child—is split across at least two households.

Remarried families often maintain relationships with the former spouse and his or her family. These can become especially complicated when both spouses in a remarriage have been divorced before, perhaps more than once, and have children from the previous marriage, and when former spouses also remarry. Of course, the new configurations created by divorce and remarriage can be a source of additional support and family interaction. But they add family responsibilities as well and can bring new conflicts and tensions, particularly for children, who are the chief links between former spouses and their current families. How can consistent guidelines for discipline be maintained when parents share custody or when the children in a household have differing relationships to the parents who maintain the household? What can a stepmother do to win acceptance from her new spouse's children? How should children relate to their enlarged group of siblings and other new "step-relatives"? Such complexities probably help explain why divorce rates among remarriages are as high or higher than the rates for first marriages.[25]

Remarriage has generally followed the trend in first marriage, with a substantial rise after World War II. Unlike first-marriage rates, however, remarriage rates continued to rise during the 1960s, in tandem with the surge in newly divorced young people—the group most likely to remarry. Remarriage rates computed separately for divorced and widowed women remained fairly steady through the 1960s and then, like first-marriage rates, dropped sharply during the mid-1970s and seem to have stabilized at the end of the decade. This leveling off might be expected to continue in the 1980s with the divorce rate now also apparently stabilized. Even so, the number of people remarrying fairly soon after divorce remains high.

The unmarrieds

With reduced rates of first marriage and remarriage combined with high divorce rates, the percentage of currently single adults has increased markedly. In 1982, only 39 percent of women aged 20-24 were currently married and living with their husband, compared to 64 percent of women this age in 1960.[26] Single life is now particularly common for black adult Americans. Among women aged 30-54 in 1982, less than half of black women were married and living with their husband, compared to more than three-fourths of white women.

This growing market of unmarrieds is now a prime target for businesses and organizations. Community agencies organize social activities especially for singles, commercial firms promote dating services, and many businesses have designed products, services, and new marketing techniques to cater to the special needs of the new unmarried group, including a proliferation of new books, magazines, and newspapers offering advice on how to enjoy and manage single living.

Cohabitation without marriage

The number of unmarried American adults sharing a household with an unrelated person of the opposite sex more than tripled between 1970 and 1977 and nearly doubled again in the five years from 1977 to 1982. Though the rise tapered off in the next year, still, in March 1983, close to 1.9 million couples—4 percent of all couples maintaining a separate household—were living together without benefit of matrimony, up from about half a million in 1970.[27] This increase in cohabitation can be attributed both to the larger number of unmarried people in the population—the result of declining marriage rates and increasing divorce rates—and their greater ten-

Art Haupt

The fast-growing singles group is a prime new target for businesses and organizations.

dency to live together without marriage. Cohabitation has increased among persons of all ages and marital statuses, but particularly among the young and the divorced. By 1983, eight of every ten unmarried-couple households were maintained by a person under 45 and 28 percent included at least one child under 15.[28]

The figures on current cohabitation considerably understate the percentage of young persons who will cohabit at some time during their lives. Eighteen percent of a 1974-75 sample of men in their twenties said they had lived with a woman without marriage for six months or more, even though only 5 percent were currently cohabiting.[29] By 1983, the percentage of men with some experience of cohabitation must be much higher, paralleling the rise in current cohabitation.

There is little to document the extent to which cohabiting partners view living together as a prelude to marriage, an alternative to marriage, or simply a more economical and enjoyable form of independent living. Thus, it is difficult to assess the effect of cohabitation on marriage rates. The decline in marriage and rise in cohabitation are clearly linked, but which causes the other remains uncertain. Some cohabiting couples probably would have chosen marriage during earlier times. One study has shown that at least one-fourth of the drop in the percentage of ever-married persons between 1970 and 1977 was due to rising cohabitation.[30] However, it is still not clear whether cohabitation has increased because more people are delaying marriage or because the new popularity and acceptability of cohabitation encourages couples to choose it in lieu of marriage.

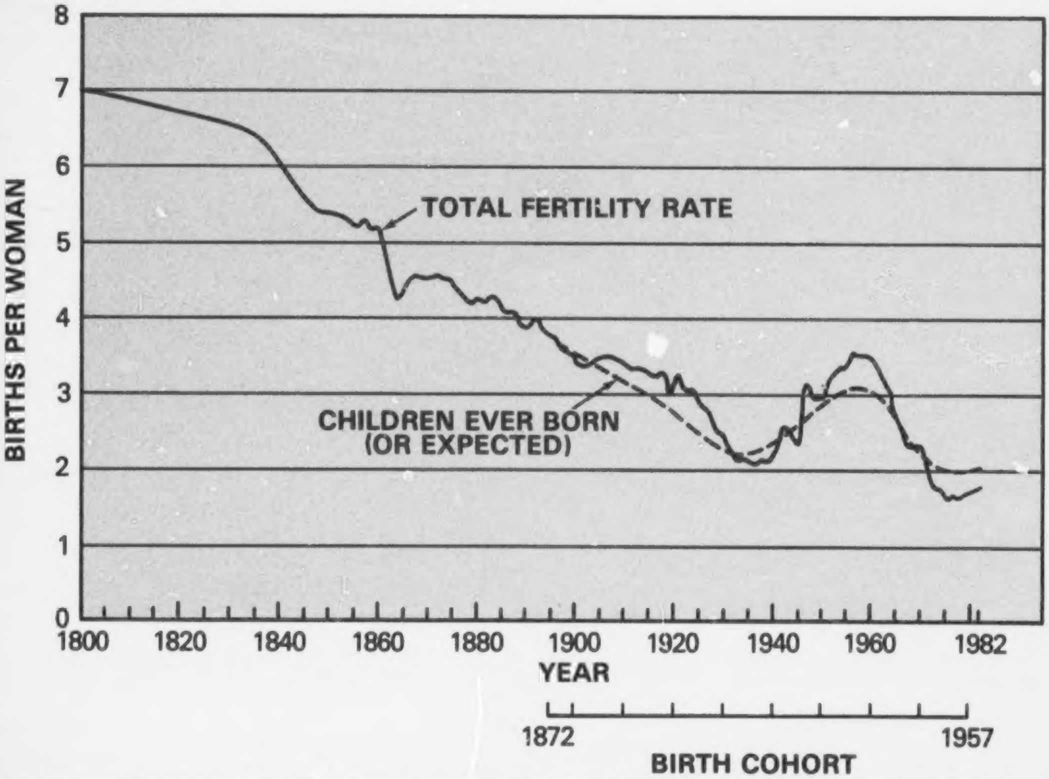
Fertility

American families were large and unplanned at the start of the 19th century. White women bore, on average, about seven children, although high mortality rates resulted in a smaller number of surviving children. As the country modernized and mortality levels dropped, women began to have fewer children. In fact, fertility has decreased steadily from 1800 until the present, with the exception of a major, but relatively short-lived reversal during the post-World War II baby boom from about 1947 to 1964. The result is that women are now having about two children, and almost all women are using contraception to plan both the spacing and number of their children.

Family size and childspacing

Figure 3 presents a broad overview of American fertility from 1800 through 1982 for white women, using two measures: the average number of children born to (or expected by) particular birth cohorts of white women and the annual total fertility rate, which indicates the average number of children each woman would have if each were to live through her childbearing lifetime (ages 15-44) bearing children at the same rate as women of those ages actually did in a specific year. Looking first at the total fertility rate, we see that fertility dropped from a high of seven children per woman in 1800 to a low of about 2.1 children during the Depression of the 1930s. Then came the postwar baby boom,

Figure 3. Average Number of Children Ever Born to (or Expected by) Birth Cohorts and Annual Total Fertility Rate, White Women: 1800-1982



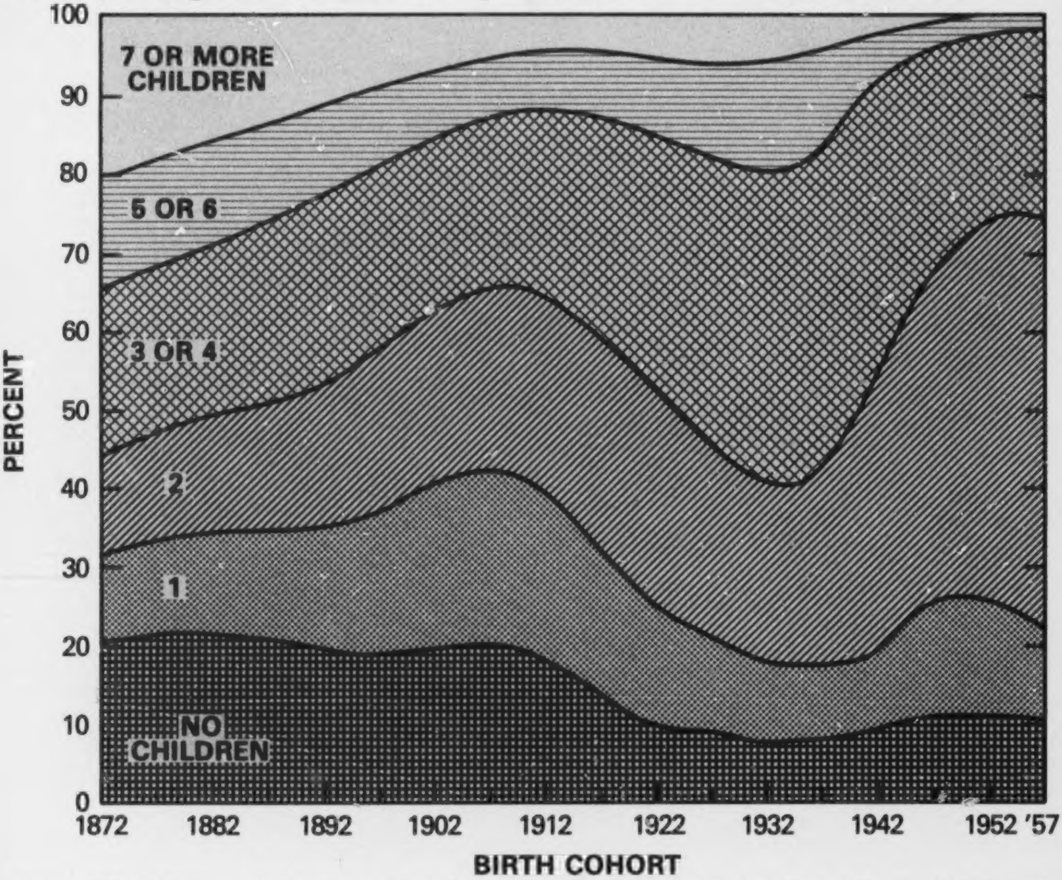
Sources: Total Fertility Rate, 1800-1916: Ansley J. Coale and Melvin Zelnik, *New Estimates of Fertility and Population in the United States* (Princeton, NJ: Princeton University Press, 1963) Table 2; 1917-1969: Robert L. Heuser, *Fertility Tables for Birth Cohorts by Color: United States, 1917-73* (Washington, DC: U.S. Government Printing Office, 1976) Table 1B; 1970-1980: National Center for Health Statistics (NCHS), "Advance Report of Final Natality Statistics, 1980," *Monthly Vital Statistics Report*, Vol. 31, No. 8, Supplement, 1982, Table 4; 1981-82: Martin O'Connell, Population Division, Bureau of the Census, personal communication; Children Ever Born: 1872-1927: Heuser, *Fertility Tables*, Tables 5-B and 7-B; 1932-1937: NCHS, *Vital Statistics of the United States 1978*, Vol. 1, *Natality* (Washington, DC: U.S. Government Printing Office, 1982) Table 1-15; 1942-1957: Bureau of the Census, unpublished tabulations from the June 1980 Current Population Survey.

bringing a sharp rise to a peak total fertility rate for white women of 3.6 births per woman in 1957, followed by an equally sharp drop to 1.7 in 1975 where the rate for white women hovered through 1982—substantially below the level of the 1930s.

Fluctuations in fertility over the last half century reflect both shifts in average family size and variation in the timing of childbearing. The actual average completed family size of cohorts of white women increased from about 2.2 for those born around 1910 to about 3.2 for those born during the 1930s who had their children during the baby boom (Figure 3). Average family size will decline to about two children for white women born during the 1950s if they have the number of children they say they expect. Among black women, average completed family size has been consistently higher, increasing from about 2.5 children for women born around 1910 to approximately four for those born in the 1930s. Expected family size for black women born during the 1950s is just over two.[31]

As fertility fluctuated over time, the distribution of family sizes changed markedly. Figure 4 shows that from the co-

Figure 4. Percentage Distribution of Number of Children Ever Born (or Expected), Cohorts of White Women: 1872-1957



Sources: 1872-1927: Heuser, *Fertility Tables*, Tables 5-B and 7-B; 1932-1937: NCHS, *Vital Statistics of the United States 1978*, Table 1-13; 1942-1957: Bureau of the Census, unpublished tabulations from the June 1980 Current Population Survey.

horts of the 1870s through those born around 1910, the decline in the number of children born per woman primarily resulted from a decrease in the proportion of large families and an increase in the share of small families. The percentage of white women with five or more children declined from 35 to 12 percent while the percentage with one to three chilidren increased from about 35 to 60 percent. Meanwhile, the proportion with no children remained fairly steady at about 20 percent.

An important part of the larger average family size of the baby boom mothers, born in the 1930s, was the reduction in childlessness and one-child families; only 20 percent of them had one child or none, as compared to 42 percent among women born in 1910. The baby boom saw a large increase in the percentage of families with three or four children, but only a modest increase in families of five or six and even less increase in very large families. The current reduction in family size, if the expectations of women born in the 1950s materialize, will result only marginally from an increase in childlessness, but rather will be due to a decrease in the percentage of families with more than two children and a substantial increase in two-child families.

The timing of childbearing also varied sharply across cohorts. Women born between 1910 and 1925 had their children at relatively older ages, as a result of postponing childbearing during the 1930s Depression and the wartime years of the early 1940s and catching up during the baby boom years. Women born during the 1930s did the opposite; they had their children early and rapidly during the late 1940s and 1950s and had relatively few children during the late 1960s and 1970s, resulting in a young average age at childbearing.[32] This shift partly reflects the change in age at marriage; women born in the 1930s married earlier in the postwar years than did women who reached adulthood during the depression and wartime years.

The overall trends in fertility have been remarkably uniform for all subgroups of the population. Thus, fertility differentials observed before the baby boom—larger families among blacks and among those with less schooling and those who marry young—appear to have persisted into the 1980s. One exception is Catholic women whose relatively high fertility fell particularly rapidly after the baby boom and is now close to that of non-Catholic women.[33]

Delayed childbearing and childlessness

Whether the cohorts of the 1950s will have the average two children that they tell surveyors they expect is open to question. The proportion who say they expect to have no children is no higher than the percentage of childless women among the prolific cohorts of the 1930s, but their actual current levels of childlessness are close to those of women born at the turn of the century at the same ages. In 1982, 63 percent of women aged 20-24 and 37 percent of women aged 25-29 were still childless—similar to the figures for cohorts born around 1900 but very different from the 50 percent and 19 percent, respectively, for the 1930s cohorts at these ages. Further, the annual probabilities of having a first birth declined rather steadily from 1960 to 1979, due both to the rising age at marriage and lower first birth rates within marriage.[34]

White women have been delaying childbearing more than black women. Some scholars project that as many as 29 percent of white women born during the 1950s may remain childless,[35] despite their plans to the contrary, either because they find that they are unable to have children or because the same reasons that caused them to postpone childbearing lead them in the end to forego children. Thus, an important question is whether these cohorts are only delaying childbearing or will in fact end up with very small families and much childlessness.

If many of these now childless young women do have the children they expect, their average age at first birth will be relatively high by recent standards. Some of these women are beginning to worry that their delay could reduce their chances of a successful pregnancy. Recent studies show that the inability to have children does increase with age, but only modestly before age 35—from about 6 percent unable to bear children at ages 20-24 to 15 percent for women aged 30-34. After age 35, the unfavorable odds increase rapidly, from about 28 percent among women aged 35-39 to 63 percent for those aged 40-44.[36] Many young women have delayed having children because they believe that time out for childrearing could jeopardize their career ambitions; there is little guidance on the optimal strategy for combining family and career for women who want both. Delayed childbearing also could affect the financial position of parents at retirement. Having children later in life could enable a couple to accumulate assets before they start their family, but the burden of college expenses close to parental retirement might deplete retirement savings. Delayed childbearing also could require difficult adjustments if the life style enjoyed while childless is not compatible with childrearing.

Projections of future levels of childlessness are complicated by current changes in birth control technology and in attitudes, values, and norms concerning parenthood and childlessness. Modern contraception and legal abortion make it easier to implement a decision to remain childless, while social norms and values prescribing parenthood have weakened, making it easier to choose to remain childless. A 1962 study of mothers in the Detroit metropolitan area found that 84 percent believed that "almost all married couples who can ought to have children," but 18 years later, in 1980, only 43 percent of these same women agreed with this idea. Similar attitudes were expressed by their young adult children who were also interviewed in 1980. Also, although nearly all the mothers said in 1980 that they would like their children to become parents, only one in eight said they would be bothered a great deal if this did not materialize.[37] That Americans no longer rule out childlessness is further documented by a 1976 national study in which six of ten adults had neutral views about "couples who decide to have no children at all." The same study also revealed a decline in positive orientations toward parenthood and an increase in negative orientations between 1957 and 1976.[38] The age that people consider ideal to have their first child has also gone up—by about half a year, on average, between 1970 and 1975.[39]

Although parenthood has become more optional, there is no evidence of an embracement of childlessness. Substantial portions of Americans continue to value parenthood, believe that childbearing should accompany marriage, and feel social pressure to have children.[40] Only a very small percentage view childlessness as an advantage, regard the decision not to have children as positive, believe that the ideal family is one without children, or expect to be childless by choice.[41] Nevertheless, it is likely that changing values concerning parenthood, the weakening of social norms prescribing marriage and parenthood, a wider range of alternatives for women, the desire to postpone marriage and childbearing, and the availability of modern contraceptives and legal abortion will result in a higher proportion of Americans remaining childless.

The long-term shift from high to low fertility has important implications for society and for family relations. At the societal level, low fertility means both a smaller and an older population. The counterparts of these effects at the family level are fewer kin and a kinship network composed of older relatives. Parents have both fewer children to support and nourish during their childrearing years and fewer children to rely on to support them in old age. Declines in fertility also generally reduce the available number of grandchildren, nieces and nephews, aunts and uncles, and cousins. However, the reduction in numbers of kin through the long-term decline in fertility has been partially offset by reductions in mortality. Also, for the next few decades, the elderly will actually have more children and younger relatives available to help them than they do now, for these will be the parents of the baby boom families. But when the parents of today's small families reach retirement age they will have fewer available younger kin than any of the elderly before them.

Small families can mean that parents have more time and resources for activities other than childrearing. Mothers probably have more time to pursue education, enjoy leisure activities, or to work outside the home. With fewer children to support and frequently income from two earners, parents of small families should be able to provide their children more opportunities and advantages, including advanced education. However, fewer children can also mean less public support for child-oriented services.

Large swings in fertility have widespread social and economic repercussions as well, particularly when the changes attain the dimensions of the baby boom. As the baby boom cohort matured, the United States incurred massive expenditures for new public schools and then expanded higher education facilities, and has had difficulty accommodating the large cohorts in the labor market. As smaller cohorts of children followed the baby boom generation, communities have abandoned schools no longer needed, while declining enrollments in the universities are anticipated. An important current debate centers on how the already ailing Social Security system can be stretched to cover the baby boom generation when it reaches retirement age and funds must come from the following smaller cohorts in the working ages.

Birth control

The steady decline in fertility from 1800 to 1940 reflects the growing acceptability and use of birth control by American married couples even long before the advent of today's sophisticated contraceptive methods and legal abortion. Sketchy information suggests that at least 40 percent of women born in the 1840s and 60 percent of women born in the 1870s practiced some sort of birth control.[42] Contraceptive use certainly was widespread by the early 20th century. Over 70 percent of women born in the first decade of this century reported using contraception, and many used more than one method. Most common were condoms, the contraceptive douche, and withdrawal; also important were rhythm, the diaphragm, and jelly or cream.[43] These methods were effective enough to bring the birth rate to the low level of the 1930s when these women were in their prime childbearing years.

However, the "modern" contraceptive era began only during the 1960s when many American couples shifted from traditional methods to sterilization, the oral contraceptive pill, and the intrauterine device (IUD). Acceptance of the pill, first introduced in 1960, was rapid and widespread. Nearly one-fourth of all contracepting couples were using the pill by 1965 and 36 percent by 1973. Pill usage then dropped to about 33 percent in 1976 (the last year for which information is available)—probably due to concern about side effects. Less popular was the IUD, although 10 percent of contracepting married couples were using it by the mid-1970s.[44]

Sterilization has become an important contraceptive method in the past two decades, particularly among older couples who have completed their families. Among all contracepting couples, the proportion reporting a contraceptive sterilization was still only 12 percent in 1965 but more than doubled to 27 percent by 1976. By that year, 40 percent of contracepting couples with the wife aged 30-44 had adopted this non-reversible method, with the operations divided nearly equally between husbands and wives.[45]

Since its legalization nationwide by the Supreme Court in 1973, abortion has become an especially important and common form of fertility control in the United States. From close to 900,000 in 1974, the year after the Supreme Court ruling, legal abortions mounted rapidly to 1.55 million performed in 1980, although the annual increase slowed to just 1 percent between 1979 and 1980.[46] Nearly 3 percent of all women of childbearing age had an abortion in 1980, representing about three abortions for every seven births; about one-third of these 1980 abortions were at least second abortions for the women concerned.

Although still not "perfect," modern birth control has helped reduce the incidence of unplanned and unwanted fertility which was still considerable in the 1950s, despite the widespread availability and usage of contraceptives. This in itself probably accounts for much of the overall fertility decline after 1960.[47] Beyond that, the availability of highly effective contraceptive methods and legal abortion has probably altered orientations toward childbearing. Traditional contraceptive methods were effective in reducing overall fertility, but their substantial failure rates made it difficult for couples to plan confidently the timing and number of their children. For most women, motherhood has now become a matter of choice so that couples can rationally integrate their childbearing decisions with education and career plans, which makes possible the fuller and more effective participation of women in the labor market. As women work outside the home and gain satisfaction from it, the competing demands of children may seem costlier. Thus, the contraceptive revolution and legal abortion have probably helped reduce desired family size as well as unplanned childbearing.[48]

Sexual Activity and Childbearing Among the Unmarried

Increased sexual activity and childbearing among the unmarried have had important repercussions on both families and American society. Childbearing among unmarried women is the other reason, along with marital separation, for the growth in families headed by women on their own. It has also sparked controversy about the legitimacy of public programs to help sexually active teenagers avoid unwanted pregnancies. Of course, premarital sexual activity and out-of-wedlock childbearing are not new in this country, as shown by limited historical data, but both are now much more prevalent and thus of growing social concern.

Sexual activity among unmarried teenagers

As Table 1 documents, premarital sexual activity among teenagers was already widespread in 1971 and increased steadily during the 1970s. Among never-married women aged 15-19 interviewed in metropolitan areas, 28 percent of the total and 46 percent of the 19-year-olds reported in 1971 that they had had sexual intercourse. By 1979, the figures were 46 percent for the 15-19-year-old never-married women as a group, 69 percent for the 19-year-olds, and 78 percent for never-married men aged 19. Most of this rise was accounted for by increased premarital sexual activity among white teenagers, although in 1979, the proportion of black never-married teenage women reporting that they had had sexual intercourse (65 percent) was still much higher than the 42 percent reported by their white counterparts.[49]

Attitudes toward premarital sex also have become less restrictive over the last decade. The proportion of American adults agreeing that it is "always" or "almost always" wrong for a man and woman to have sexual relations before marriage dropped from 49 to 38 percent between 1972 and 1982. At the same time, however, the proportion who feel that extramarital sex—"a married person

Table 1. Sexual Activity and Premarital Pregnancy and Its Resolution Among Metropolitan Area Women Aged 15-19: 1971, 1976, 1979

(Numbers in percent)

Characteristics	1971	1976	1979
Never-married women who ever had intercourse	28	39	46
All women who were ever pregnant before marriage	8	13	16
Premaritally pregnant women who married before resolution of pregnancy	33	23	16
Premaritally pregnant women who terminated pregnancy by abortion while still unmarried	23	32	37

Source: Melvin Zelnik and John F. Kantner, "Sexual Activity, Contraceptive Use and Pregnancy Among Metropolitan Area Teenagers: 1971-1979," *Family Planning Perspectives*, Vol. 12, No. 5 (September/October 1980) pp. 230-237.

having sex with someone other than their spouse"—is always or almost always wrong remained consistently high at around 85 percent.[50]

Contraception

From 1976 to 1979, the proportion of premaritally sexually active teenage women who said they had always used contraception rose from 29 to 34 percent, while those saying that they had never used contraception dropped from 36 to 27 percent. Teenagers also reported more use of the most effective contraceptive methods—the pill and the IUD—between 1971 and 1976, although there was a return to less effective traditional methods, especially withdrawal, by 1979.[51]

Despite this increase in contraceptive use during the 1970s, a large proportion of sexually active teenagers remains unprotected, particularly at first intercourse, and practice tends to be careless and sporadic among those who do use contraception. The explanation does not seem to be a dearth of services, since government-supported clinics have provided services to teenagers in most areas in recent years. Nor do most unmarried teenage women fail to use contraception because they want a child; only one in five premaritally pregnant teenagers interviewed in 1979 said they had wanted to get pregnant.[52] Apparently many are unrealistic about the risks of getting pregnant, while some are unwilling to admit to their degree of sexual involvement and prefer to view intercourse as an unexpected, irresistible occurrence rather than an anticipated event.

Pregnancy

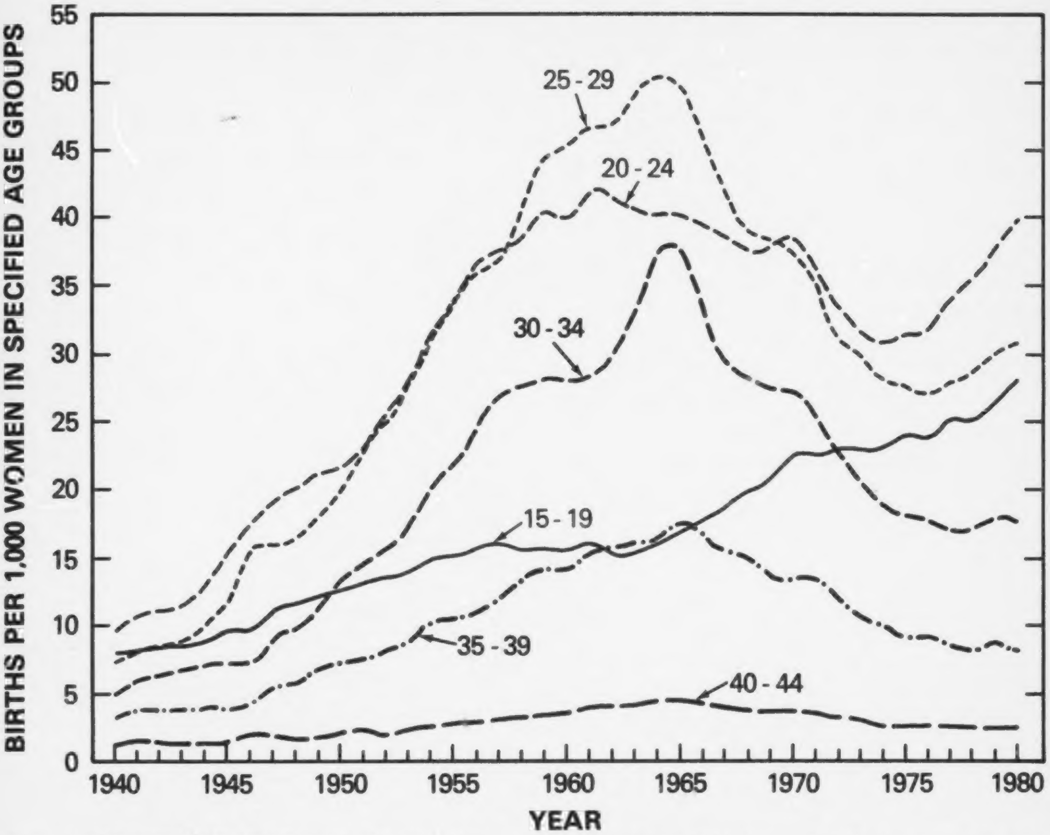
With the increase in sexual activity outstripping the increase in effective contraceptive practice, the proportion of all women aged 15-19 reporting that they had been premaritally pregnant doubled from 8 to 16 percent between 1971 and 1979 (Table 1). Again, this percentage in 1979 was higher for blacks (30 percent) than for whites (14 percent). However, premarital conceptions went up 141 percent for white adolescents in the 1970s, compared to an increase of only 19 percent among black teenagers.

Harold M. Lambert

By 1979, the proportion of never-married 19-year-olds in metropolitan areas reporting that they had had sexual intercourse was 69 percent for women and 78 percent for men.

Teenagers have changed their responses to pregnancy. Nearly one-third of the premaritally pregnant teenagers interviewed in 1971 married before their expected delivery date; by 1979, the proportion had dropped to 16 percent. At the same time, among the premaritally pregnant who chose not to marry, the percentage who terminated the pregnancy by abortion increased from 23 to 37 percent (Table 1). Nationwide, the abortion rate for teenagers increased from 27 abortions per 1,000 women under age 20 in 1974 to 43 per 1,000 in 1980; 30 percent of all abortions in 1980 were obtained by teenagers.[53] The abortion rate for all unmarried women also rose markedly over these six years, from 33 to 55 per 1,000, compared to an increase only from 9 to 11 per 1,000 for married women. By 1980, 79 percent of all abor-

Figure 5. Birth Rates for Unmarried Women, by Age: 1940-1980



Sources: 1940-1969: NCHS, *Vital Statistics of the United States 1975*, Vol. 1, *Natality* (Washington, DC: U.S. Government Printing Office, 1978) Table 1-30; 1970-1980: NCHS, "Advance Report of Final Natality Statistics, 1980," Table 16.

tions were obtained by unmarried women.

Out-of-wedlock childbearing

As Figure 5 shows, the birth rate for unmarried women aged 15-19 rose almost uninterruptedly from 1940 through 1980, due primarily to the rise in premarital pregnancies among adolescent women and their lesser inclination to legitimize births by marriage. In 1980, the birth rate for unmarried black teenagers was still nearly six times the rate for whites, but out-of-wedlock childbearing actually declined slightly among black teenagers during the 1970s, while the rate for white teenagers went up nearly 50 percent.

In contrast to the trend in out-of-wedlock childbearing, the birth rate for the *total* group of teenage women—the married plus the unmarried—has declined since the peak of the baby boom in the late 1950s. The reasons for these discrepant trends are that many fewer teenagers are married today, which lowers overall fertility, and the fertility of married teenagers has fallen in concert with the decline in the marital fertility of older women. In fact, the decline in *overall* teenage fertility has been significant enough that the percentage of all children born to teenage women declined from 19 to 16 percent between 1974 and 1980.[54]

Fertility rates also increased markedly for older unmarried women between 1940 and the early 1960s but then turned down, paralleling the trend in marital fertility (Figure 5). The downturn continued through 1980 for unmarried women aged 30 and over but there was an increase in the late 1970s for women in their twenties. The share of all out-of-wedlock births occurring to women aged 20 and over rose from 47 to 59 percent between 1974 and 1980 because of the increase in fertility among unmarried women in their twenties, the rise in age at marriage, and the "aging" of the baby boom cohort into their twenties, which both increased the number of women in their twenties and decreased the number of teenagers.[55] The birth rate for the total group of unmarried women has risen fairly steadily since 1940 because of the steady rise in the rate for teenagers, who are the preponderant group of unmarried women.

There is little to document the trend in sexual activity among older unmarried women, either those who have still never married or the separated, divorced, or widowed. Figure 5, however, shows that the childbearing rates of unmarried women in their twenties exceed the rate for teenagers. Studies have shown that the fertility rate for previously married women is not insignificant, though well below that of continuously married women. In 1976, a substantial 54 percent of previously married women reported that they were using contraception or had been sterilized, and contraceptive use had risen more for these women than for currently married women between 1973 and 1976.[56] It is also known that previously married women are more likely than never-married women to cohabit without marriage.

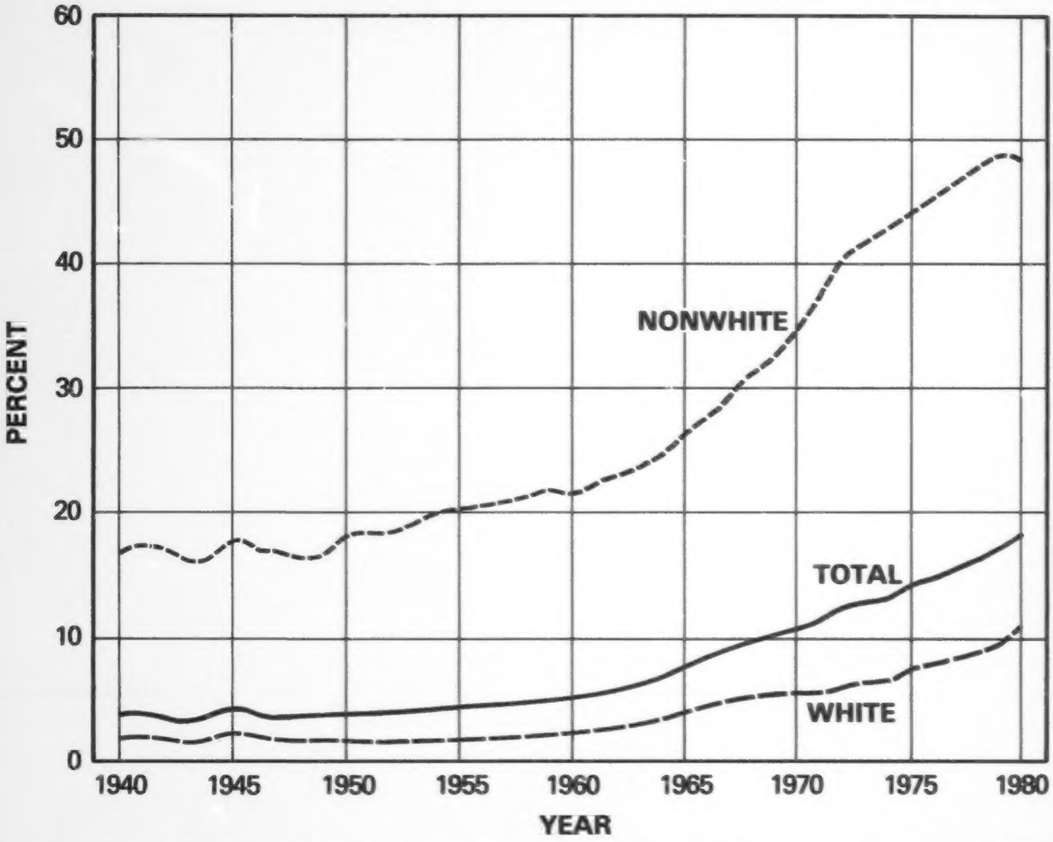
The increase in both the percentage of women who are unmarried and their rate of childbearing, coupled with the downturn in the fertility rate of married women, has sharply increased the percentage of all American births occurring out of wedlock in the past two decades (Figure 6, page 22). Between 1940 and 1960, the proportion of babies born to unmarried mothers fluctuated at 4 to 5 percent, but by 1980, the share had more than tripled to 18 percent. In 1980, out-of-wedlock births made up nearly half (48 percent) of total births to nonwhite women (of whom more than 90 percent are black), while the comparable figures for whites was 11 percent. Among teenage women in 1980, the proportion of out-of-wedlock births was 85 percent for blacks and 33 percent for whites.

The trend in nonmarital fertility among teenagers is especially troubling because many of the significant health risks and social and economic disadvantages associated with teenage childbearing are particularly serious for unmarried teenagers. Mortality risks are higher for both baby and mother when the mother is a teenager than they are when the mother is in her twenties. Though government-mandated programs now keep more pregnant teenagers in school, adolescent mothers still receive less education than other adolescents. This, along with child-care problems in often fatherless homes, can impede their search for and commitment to a job, which in turn increases the chances that they will find themselves on welfare.[57] The difficulties often multiply because women who start childbearing in their teens tend to have more births subsequently than women who delay childbearing until their twenties.

Adoption

Adoption can provide children of unmarried mothers the advantages of a home with two, better educated parents and a higher standard of living.[58] Scarce data indicate that adoptions increased in the 1950s and 1960s but declined during the early 1970s, despite the continuing sizable number of children born out of wedlock and sharp increase in their proportion of all births. Apparently unmarried women now more often opt to raise their children on their own.[59] This has reduced the number of children available for adoption—a shortage that could intensify if many of the women who are now delaying childbearing discover that they cannot bear a child and attempt

Figure 6. Percent of Children Born out of Wedlock: 1940-1980



Sources: 1940-1978: NCHS, *Vital Statistics of the United States 1978*, Table 1-31; 1979: NCHS, "Advance Report of Final Natality Statistics, 1979," *Monthly Vital Statistics Report*, Vol. 30, No. 6, Supplement (2), 1981, Table 13; 1980: NCHS, "Advance Report of Final Natality Statistics, 1980," Table 15.

to adopt. Recent cases of the use of "surrogate" mothers to bear a child for an adopting couple are a new response to this shortage. Though still rare, this practice is apparently growing and has raised concern in several states because of its ethical and legal ramifications.

Sexually transmitted disease

The incidence of sexually transmitted diseases has grown in recent years, reflecting largely the growth in numbers of unmarried adults and their increased sexual activity. Modern medicine and serious control efforts have successfully combatted some venereal diseases; the incidence of syphilis dropped to all-time lows in the late 1970s, although the early 1980s brought some signs of an upturn. Reported cases of gonorrhea, however, rose dramatically during the 1960s and early 1970s, and although the number then leveled off and even declined somewhat, the 1980 rate was still three times the rate in 1960. Other such diseases, such as genital herpes, also appear to have increased rapidly during the 1970s.[60] Certainly, sexually transmitted diseases continue to be a serious health problem and affect the way Americans approach the formation of relationships.

Public policy

Considerable public controversy has centered on abortion and the provision of contraceptive services to unmarried teenagers. Following court decisions of the 1960s and early 1970s that lifted historical restrictions on abortion and the dissemination of contraceptives, the federal government has provided support for freely available contraceptive services. Several groups view provision of these services to teenagers as government intrusion on the rights of parents to supervise the behavior of their minor children. For them, the solution for adolescent pregnancy lies in familial control and parental guidance to restrict teenagers' sexual activity, which, they feel, is encouraged by freely available contraceptive services. Others doubt that adolescent sexual activity can be substantially decreased, despite parental efforts, particularly given growing sexual activity and cohabitation among older unmarried people. In their view, restricting contraceptive services for teenagers would increase teenage childbearing with all its negative implications.

Sex education in public schools provokes similar arguments. Some groups feel that sex education in schools encourages sexual activity and is best left to parents. However, more than two out of three Americans support sex education in schools, and some of them, noting young people's lack of sexual knowledge,[61] argue that additional information would allow adolescents to deal more wisely with their sexuality. One recent study suggests that sex education in public schools does not lead to more sexual experience.[62]

Public issues regarding abortion are not limited to adolescents. The right of all women to obtain an abortion, established by the 1973 Supreme Court decision, has been under attack by groups who champion the rights of the unborn. Supporters of the 1973 decision contend that the ability to control fertility is a fundamental right for every woman and that the elimination of the abortion option would result in more unwanted births and more recourse to illegal and potentially dangerous abortion, especially among unmarried teenagers.

The complexity of the abortion issue is reflected in the attitudes of individual Americans. In 1982, the overwhelming majority approved of legal abortion if the woman's health is seriously endangered by the pregnancy (92 percent), if she became pregnant as a result of rape (87 percent), or if there is a strong chance of serious defect in the baby (84 percent). But only about half approved of abortion if the family has a very low income and cannot afford more children, if the woman is unmarried and does not want to marry the man, or if she is married and wants no more children. Just over 40 percent of Americans approve of all six of these reasons for abortion, while only some 7 percent disapprove of all six—a substantial change from 1965 when only 11 percent approved of all six reasons and 22 percent disapproved all six. The increase in approval, however, occurred primarily between 1965 and 1973 and there has been little change since then.[63]

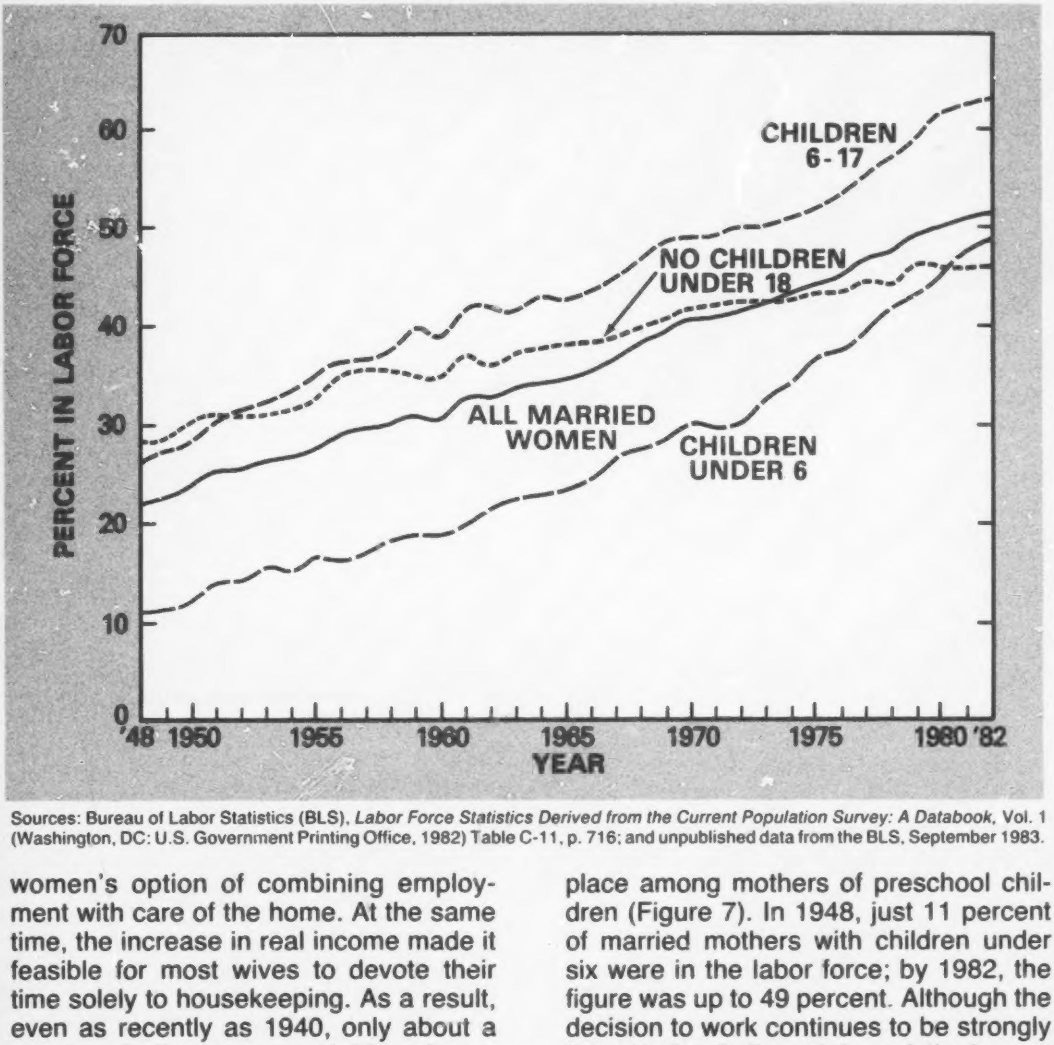
Roles of Wives and Husbands

Wives in the labor force

Historically, American women worked to provide for their families, not only by maintaining the home but also by directly contributing to the family's livelihood. Even in the last decades of the 19th century some 40 percent of the nation's population lived on farms, where wives and daughters helped with farmwork and, as part of their housework, tended the garden, processed the family's food, and clothed the family, all without benefit of electricity. In urban areas, many wives were able to earn money by working at home or taking in boarders and lodgers. Single women often worked outside the home for pay, but most wives confined their work efforts to their homes.[64]

The industrialization of America in the late 1800s and early 1900s shifted the primary locus of employment from the household to the marketplace, reducing

Figure 7. Labor Force Participation Rates of Married Women, by Presence and Age of Children: 1948-1982



Sources: Bureau of Labor Statistics (BLS), *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vol. 1 (Washington, DC: U.S. Government Printing Office, 1982) Table C-11, p. 716; and unpublished data from the BLS, September 1983.

women's option of combining employment with care of the home. At the same time, the increase in real income made it feasible for most wives to devote their time solely to housekeeping. As a result, even as recently as 1940, only about a quarter of all women aged 16 and over and just 14 percent of married women were in the labor force.[65]

A veritable revolution occurred in women's work patterns after World War II. By 1982, more than half of all women aged 16 and over (53 percent) were working for pay or looking for a job outside the home.[66] Married women have accounted for most of this increase in labor force participation (51 percent were employed in 1982), and among married women the most rapid increase took place among mothers of preschool children (Figure 7). In 1948, just 11 percent of married mothers with children under six were in the labor force; by 1982, the figure was up to 49 percent. Although the decision to work continues to be strongly linked to family financial need, the largest relative increase in female labor force participation since 1960 has occurred among wives with high-earning husbands.[67]

Despite this surge of married women into the labor force, their work patterns still differ markedly from men's. During 1978, 81 percent of husbands in the prime working ages (25-54) worked full time for the entire year but only 28 percent of wives in this age range did so.[68] Married women are more likely than married men to work part time and take time out from the labor force, usually for family-related reasons. Some economists assert that these gender differences in work patterns account for the lower earnings of women, which are only 60 percent of what men earn.[69] Other scholars argue that wage discrimination also accounts for much of the earnings gap; evidence suggests that even career women who work full time earn less than men in similar jobs.[70]

Women workers typically have been segregated into low-paying "female jobs," such as teaching, social work, and clerical work—another reason for their lower average earnings. But many American women are now working at what used to be men's jobs. Women have become the majority in such traditionally male-dominated categories as insurance adjustors and real estate brokers. Even where women still are a minority, the gains have been impressive: from 4 percent of the nation's lawyers and judges in 1972 to 14 percent in 1981, and from 10 to 14 percent of physicians over the same nine years.[71]

Women's growing involvement in paid employment outside the home has been accompanied by a notable shift in attitudes concerning appropriate roles for women and men. Traditional attitudes defined the home as the locus for women's work and fulfillment, thereby reinforcing the existing division of labor, but current attitudes support a much broader range of activities for women. Some Americans now expect rather than discourage outside employment for wives. Americans also increasingly believe that women should not only be able to pursue outside interests and careers, but also have equal access to education and good jobs, receive equal pay for equal work, and have the same opportunities as men for political office. This is paralleled by more stress on equal authority for women within the home. These attitudes have continued to broaden along with women's roles, despite the conservative movement of the late 1970s and early 1980s with its emphasis on traditional male-female roles.[72]

Art Haupt

Over half of all married women, including 49 percent of mothers of preschool children, now hold a paid job outside the home.

Although attitudes increasingly permit women's full participation in activities outside the home, there is still strong support for a fundamental specialization and division of labor between wives and husbands. Young Americans continue to believe that men should always be involved in full-time employment, while women should combine work and family responsibilities, with the mix depending on the family's needs and circumstances, especially whether or not there are children and their ages. Despite the recent spate of press stories on "new men," there is little interest in a reversal of sex roles, with husbands assuming primary responsibility for home and child care while wives specialize in market work. For this aspect of sex roles, attitudes have changed the least in recent years.[73]

American family life has changed greatly now that so many wives have gone to work outside the home. New problems have arisen—care for the children while mother works, hectic work schedules for wives who manage both home and a job, and marital adjustments

Table 2. Child-Care Arrangements for Children Under Age Six of Ever-Married Mothers Working Full Time: 1958, 1977

(Numbers in percent)

Child-care arrangements	1958	1977[a]
Total	100.0	100.0
Care in child's home	56.6	28.6
by father	14.7	10.6
by other relative	27.7	11.4
by nonrelative	14.2	6.6
Care in another home	27.1	47.4
by relative	14.5	20.8
by nonrelative	12.7	26.6
Group care center	4.5	14.6
Child cares for self	0.6	0.3
Mother cares for child while working (and all other arrangements)	11.2	9.0

Source: Marjorie Lueck, Ann Orr, and Martin O'Connell, "Trends in Childcare Arrangements of Working Mothers," *Current Population Reports*, Series P-23, No. 117, 1982, Table A, p.2.

[a] Data for two youngest children under age 5.

Note: Data refer to child-care arrangements only while the mother is working.

to the wife's new status as well as her crowded schedule. Women's work also benefits many families, by bringing in income for necessities or extras and by providing mothers with a sense of well-being, which is often shared by their husbands and children.

Child care

Working mothers with school-age children find it easiest to handle child care by confining work to school hours, finding someone for after-school care, or allowing older children to care for themselves after school. Working mothers with preschool children use a variety of child-care arrangements (Table 2). In 1977, 29 percent of children under six whose mothers worked full time were cared for during the day in their own homes, 47 percent were cared for in the homes of others, and 15 percent were taken to group care centers. This is a marked change from 1958 when over half of such children were cared for in their own homes. Since 1958, care in other people's homes has almost doubled while the use of group care centers has tripled. A large proportion of working mothers (57 percent) pay for child care, particularly if they work full time (66 percent)[74]

Arranging for care in children's own homes has become more difficult since neighbors and relatives often are now out working themselves. Home care is even less feasible for the large number of divorced women who have lost the father's assistance and often that of "in-laws" as well. This is reflected in the fact that more unmarried than married women pay for child care, and unmarried mothers, who can probably least afford it, are the greatest users of group care centers. The decline in home-based care has occurred in every socioeconomic group. However, higher income families more often use group care centers as a substitute rather than the homes of relatives, while blacks and other races use relatives for child care much more often than whites—45 percent compared to 26 percent[75]

Are the children of working mothers adversely affected by their mothers' absence? Undoubtedly, the effect of mothers' work on their children depends on the adequacy and consistency of the child care provided, and the amount and quality of time parents spend with their children when they are not working. Thus, it is difficult to assess the net affect of women's work on the well-being of children. Nevertheless, most studies indicate that any differences between children of working and nonworking mothers are quite small.[76]

Coordinating family and work roles

Working wives use many strategies to cope with the demands on their time.

They spend less time doing housework, probably expend more effort in the hours available for housework, enjoy less rest and leisure, and utilize some of the wide array of convenience foods now sold in supermarkets. Time-use studies, which aggregate both market work and work at home, have shown only small differences between the total work time of employed married men and women. In 1965, employed husbands averaged 60 total work hours per week, compared to 67 hours for employed wives. By 1975, total workloads had decreased and the average work hours of employed married women and men were almost the same at about 55-57 hours per week. In each period, women bore more than two-thirds of the home workload, but men averaged considerably more time on the job, since many working wives work only part time. Among full-time workers in 1975, wives registered more total work time (64 hours per week) than husbands did (61 hours), despite less time spent on their outside jobs, because they still did most of the housework, particularly cooking, cleaning, and laundry chores.[77] The total work time of nonworking wives was considerably lower and remained virtually unchanged at about 53 hours from 1920 to 1965, but then dropped sharply to 45 hours in the 1970s.[78] Housewives have adopted some of the time-saving strategies used by working wives, such as family meals eaten out, which several studies have shown to be now as frequent for families where wives do not work as for those where they do.[79]

The money earned by wives often makes an important contribution to family incomes in the United States. In 1982, the median income of married-couple families with a working wife ($30,300) was more than 40 percent higher than the median for such families where the wife was not in the paid labor force ($21,300). The median percentage of family income earned by all working wives in 1978 was 26 percent, and was 38 percent when wives worked full time all year. In families at the low end of the income scale, the wife's contribution is much more sizable—a median contribution as high as 64 percent in the poorest group. In fact, relatively few dual-earner families now fall below the poverty level, with one reason being the wife's contribution to family income.[80] For more affluent families, the wife's income can make possible the purchase of a home, sending the children to college, the purchase of appliances to make housework easier, and vacation trips. A wife's earnings can also provide a cushion against the husband's unemployment or give the husband the freedom to try a new business venture.

Mary Kent

A father and daughter help with the home workload, but working wives are still expected to shoulder primary responsibility for home and child care.

Research has not demonstrated a clear relationship between the employment of wives and marital satisfaction.[81] It is likely that for many couples the advantages of a second income and additional opportunities for the wife's fulfilment outweigh the increased responsibilities associated with her working, while for others the balance is negative. The effect of a wife's employment is probably related to her reasons for working, the kind of job she has, her husband's attitude toward her employment, the demands of her work, and the amount and nature of her other family responsibilities. Although employment outside the home does not necessarily enhance or detract from marital satisfaction, a wife's job does provide extra resources which can facilitate divorce in an unhappy marriage.

Ramifications beyond the family

Local communities have also been affected by wives' new work patterns. Security problems can mount when homes are empty all day. One study has shown that the increase in burglaries is positively related over time to the increase in the percentage of wives and female household heads who work outside the home.[82] Volunteer workers for nonprofit organizations also may become less available as women enter paid employment. Studies have shown that working women are less likely to do volunteer work than nonworking women.[83] Neighborhood socializing may also decline as a result of the busier schedules of working couples and a shift in the center of social life toward the office and away from home.

The surge of women into the labor market has also had an important impact on the national scene, both on the business community and on government policy. A growing number of companies are targeting their product mix toward goods and services designed for working women. Fast food firms have proliferated and new firms offer to clean homes, run errands, and provide other services to this new and lucrative market. Exploiting this market has produced new marketing strategies. Companies have adopted advertisements which stress utility and time-saving rather than spotless floors and dishes, and even portray husbands and children helping with household chores. On the labor front, companies have had to adapt their hiring procedures to conform with equal employment opportunity laws and consider revisions in policies regarding pregnancy leave, flexible working hours, and transfers where two working spouses are involved.

Government policies too have been affected. Government programs designed prior to the influx of married women into the paid labor force entailed an implicit assumption that each family unit includes only one earner. As a result, federal income tax laws can impose a marriage penalty on a couple with two incomes, who sometimes pay considerably more taxes than they would if they lived together without being married. The 1982 tax law, which takes full effect in 1983, alleviates but does not eliminate the marriage penalty; the tax liabilities of about 19 million couples would still be lower if they were allowed to file as single individuals.[84] Social Security also discriminates against two-earner couples, in that a one-earner couple may receive considerably larger retirement benefits than couples with the same total earnings record, where each spouse has earned an equal amount, and the inequality widens for survivor benefits.[85]

Women workers have sought to eliminate gender considerations in private retirement benefits; Social Security benefits already are gender neutral. The Supreme Court in 1983 eliminated gender as a factor in the determination of benefits from an employer-sponsored pension plan.[86]

Finally, the involvement of women outside the home—both increased education and work—may have a substantial impact on the political process itself. The gap between men's and women's involvement and interest in the political arena has closed in recent years, with the percentage of women who now vote equaling that of men. The increased political activity of women is particularly important because, on average, women differ significantly from men on such issues as national defense and economic policy.[87] Although the Equal Rights Amendment to the U.S. Constitution was not adopted, despite being favored by a majority of both men and women,[88] women's rights and appropriate roles for men and women continue to be important political issues.

Household Structure and Living Arrangements

Historically, most American households have been predominantly nuclear, containing only one married couple. Although it was not uncommon for a young married couple to live with parents early in marriage and for an older couple to live with a married child, joint families, with more than one married couple from the same generation sharing the same household, were rare. Nevertheless, American households were often complex; a conjugal family of parents and their minor children frequently shared their living facilities with additional persons—both relatives and others. Widowed parents often lived with their married children. In early America, many young persons both lived and worked in the households of relatives or others. Later, in the 19th century, many young persons still were to be found living with other families, but usually just as boarders or lodgers.

Over the years, American households have changed in several important ways. Households have become smaller and less complex, and there has been an increasing trend toward independent living among young unmarried persons, the elderly, and mothers with no current spouse.

Household size

The size of American households has declined almost uninterruptedly since the first census was taken in 1790. As shown in Table 3, average household size in 1980 (2.75 persons) was less than half the average of 1790 (5.79) and over 40 percent less than in 1900 (4.76). Prior to 1900, the decline in household size was primarily due to the replacement of very large households of six or more individuals with households of two to four persons. From 1900 to 1950, the biggest change was the decline in households with five or more persons and the increase in two-person households. One-person households, previously a rarity, made their first substantial gain during

Table 3. Household Size: 1790-1980

(Percentage distribution of households by number of persons)

Number of persons	1790	1900	1930	1940	1950	1960	1970	1980
Total	100	100	100	100	100	100	100	100
One	4	5	8	7	11	13	17	23
Two	8	15	23	25	29	28	29	31
Three	11	18	21	22	22	19	17	17
Four	14	17	18	18	18	18	16	15
Five	14	14	12	12	10	11	10	8
Six or more	49	31	18	16	10	11	11	6
Average persons per household	5.79	4.76	4.11	3.67	3.37	3.33	3.14	2.75

Sources: Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970,* Part 1 (Washington, DC: U.S. Government Printing Office, 1975) Series A291 and A335-349, p. 42, and "Provisional Estimates of Social, Economic and Housing Characteristics," *1980 Census of Population and Housing, Supplementary Report* (Washington, DC: U.S. Government Printing Office, 1982) Table P-1, p. 3.

Table 4. Living Arrangements of Married and Unmarried Persons Aged 65 and Over: 1900, 1962, 1975

(Numbers in percent)

Living arrangements	Married			Unmarried		
	1900	1962	1975	1900	1962	1975
Total	100	100	100	100	100	100
Alone or with spouse only	29	79	84	11	48	67
With married child	16	2	1	38	14	7
With unmarried child	42	15	10	27	20	10
With other relatives	7	3	5	13	12	13
With nonrelatives	6	1	0	11	6	3

Sources: Daniel Scott Smith, "Historic Change in the Household Structure of the Elderly in Economically Developed Countries," in Robert W. Fogel, et al (eds.), *Aging: Stability and Change in the Family* (New York: Academic Press, 1981) Table 5.A1, p. 110; Ethel Shanas, et al, *Old People in Three Industrial Societies* (New York: Arno Press, 1980) Table VII-2, p. 186; and Ethel Shanas, *Final Report, National Survey of the Aged*, University of Illinois at Chicago Circle, January 1978, Table 5-7, p. 55.

Note: Because data collection procedures used in 1900 differed from those of 1962 and 1975, it is possible only to make general comparisons between 1900 and the other two years.

this period. Since 1950, the predominant trends have been a large gain in single-person households to 23 percent of the total in 1980 and a drop in households with more than two members.

An important element in the reduction in household size prior to World War II was the decline in fertility. Couples raised fewer children and were younger at the birth of their last child. With fewer children, the relative number of large households declined steadily and substantially. Since parents also reached the "empty nest" stage earlier and enjoyed greater longevity, they experienced a longer period with no children at home. Elderly married couples without adult children in their homes also became more prevalent as young adults established their own households earlier. Although data deficiencies prevent precise comparisons, Table 4 suggests that this change has been substantial; the percentage of married couples over age 65 with unmarried children in the home declined from more than 40 percent in 1900 to about 15 percent in 1962,and was only 10 percent in 1975.

Another important change in living arrangements is the virtual disappearance of the practice of living in a household as a boarder, lodger, servant, or employee. In the last half of the 19th century, when the country was urbanizing rapidly and housing was scarce, as many as 15 to 20 percent of urban households included lodgers, many of whom were young persons making the transition to adulthood. At present, less than 5 percent of households contain boarders.[89]

Independent living

Since 1950, most of the decline in household size has been due to a dramatic trend toward "independent" living. Just between 1970 and 1983, the number of new American households grew 33 percent—from 63 to 84 million—while the total population grew only 14 percent in these 13 years.[90] In record numbers, young people were leaving the parental nest after school and before marriage to set up their own households, alone or with friends of their own or the opposite sex; retirees chose to live on in their old homes or move to a new apartment or a retirement community rather than move in with children; spouses moving out after a divorce (usually the husband) opted to set up their own households rather than join others; and never-married, separated, or divorced mothers also chose to keep or set up separate households for themselves and their children.

Table 5. Never-Married Men and Women Aged 25-34 Maintaining Their Own Households: 1950, 1960, 1970, 1982

(Numbers in percent)

	Men				Women			
Living arrangements	1950	1960	1970	1982	1950	1960	1970	1982
Total maintaining own household	9.5	19.4	31.1	42.7	11.0	21.1	35.2	53.3
Living with family members	4.6	4.3	4.5	4.1	3.6	6.7	11.9	16.8
Living alone or with nonrelatives	4.9	15.1	26.6	38.6	7.4	14.4	23.3	36.5

Sources: Bureau of the Census, "Marital Status," *1950 Population Census Report P-E*, No. 2D, Preprint of Vol. IV, Part 2, chap. D (Washington, DC: U.S. Government Printing Office, 1953) Table 1, p. 18, "Persons by Family Characteristics," *U.S. Census of Population: 1960, Final Report*, PC(2)-4B (Washington, DC: U.S. Government Printing Office, 1964) Table 2, p. 10, "Persons by Family Characteristics," *U.S. Census of Population: 1970*, PC(2)-4B (Washington, DC: U.S. Government Printing Office, 1973) pp. 12 and 17, and "Marital Status and Living Arrangements: March 1982," *Current Population Reports*, Series P-20, No. 380, 1983, Table 6, pp. 36 and 37.

Note: 1950, 1960, and 1970 data come from decennial censuses, while 1982 data are from the Census Bureau's Current Population Survey and are not strictly comparable.

One type of independent living is now virtually universal—newly married couples immediately setting up their own households rather than living for a time in a parental household, which was still not uncommon in 1950. By 1978, only 2 percent of married couples with the husband aged 25-34 did not maintain an independent household, down from 10 percent in 1950.[91]

Table 5 illustrates young American adults' dramatic shift to independent living before marriage. Between 1950 and 1982, the percentage of never-married people aged 25-34 maintaining their own households more than quadrupled for both men (9.5 to 42.7 percent) and women (11.0 to 53.3 percent). For men, a shift to living alone or with unrelated persons accounted for all the increase. For women, the increase included a fivefold increase in the percentage of never-married women heading a family household—a reflection of the increase in premarital childbearing, more single mothers rearing their own children, and their greater tendency to live apart from parents and other relatives. The figures in Table 5 actually understate the trend toward independent living among unmarried adults. The nonrelatives who share accommodation with an unmarried household head are usually themselves unmarried adults living apart from their parental families.

The elderly

Although elderly married couples in America usually have lived in their own homes apart from their married children, Table 4 shows that in 1900 about 16 percent of married couples 65 or older did share living quarters with a married child and his or her spouse. Such intergenerational living has virtually disappeared in this century.

Equally dramatic has been the shift in living arrangements of elderly unmarried persons. Rough comparisons between 1900 and 1975 (Table 4) suggest that in 1900 over one-third of such persons lived with a married child, but by 1975 only 7 percent did. The proportion of older unmarried Americans living alone has increased from about one in ten to two out of three. Most of these are elderly widows or divorced women who never remarried. They can expect to live alone for a long period, since women now outlive men by a wide margin.

Although the parent-child relationship is often stressed as the crucial family tie in American society, significant numbers of older Americans—13 percent of the unmarried and 5 percent of the married in 1975—live with siblings or other relatives. This type of living arrangement is particularly important for elderly people who never married and lack the kinship support of spouse or children.[92]

Living arrangements of the elderly are more varied for blacks than for whites. Fewer black elderly couples live by themselves (62 percent as compared to 84 percent of elderly white couples in 1975) and many more live with children (23 versus 11 percent) or with other relatives (16 versus 4 percent). Similar racial differences exist for the unmarried elderly.[93]

One reason for the decline in coresidence of the elderly and their married children is that today's elderly are those who had their children in the low-fertility years of the 1920s to the early 1940s and now have fewer children with whom they might live in old age than earlier generations did; about 20 percent of all persons over 65 in 1975 had no living children.[94] The next generation of elderly—the parents of the larger baby boom families—will have more children available, as noted earlier, but it seems unlikely that many more than now will opt to move in with children.

Surveys of residential preferences indicate that most elderly who live alone prefer to maintain their independence so long as their health and financial circumstances permit, though most also want to live near their children. As they grow older and their health deteriorates, more of the elderly do live with children; in 1975, 19 percent of unmarried men and 31 percent of unmarried women over age 80 lived with a child.[95]

Maintaining a separate household now is economically more feasible for many elderly Americans. Because of Social Security benefits that have outpaced the rise in real wages and better retirement pensions, the large majority of today's elderly do not depend on their children for financial support. In fact, a recent study revealed that, because most Social Security benefits are tax-exempt and elderly households average few persons, the elderly in 1980 actually had a higher per capita income after taxes ($6,300) than the general population ($6,000). Many of the elderly are poor, particularly women, but the proportion of elderly single women with incomes below the poverty level dropped from 72 to 32 percent between 1959 and 1980, while the proportion for elderly couples was 32 percent in 1959, and only 16 percent for all the noninstitionalized elderly in 1980. This improved financial situation has occurred even though few of the elderly now have an income from a job; in 1950, 45 percent of men aged 65 or older were still in the labor force, but only 18 percent in 1980.[96]

The elderly still depend on their families for much health care. In 1975, some 15 percent of the elderly were severely handicapped physically and two-thirds of these were cared for at home, with most of the care provided by relatives. Only 5 percent of all elderly persons were in health institutions in 1975.[97]

Although institutionalization of the elderly is sometimes viewed as abandonment of parents by their children, it is usually the solution of last resort. Most of the institutionalized are the very old with serious physical impairments requiring constant care. These needs often go beyond the capabilities of close family members, many of whom are themselves growing old. Only about one in ten of the institutionalized elderly still have a surviving spouse and about half have surviving children. Among the general elderly population, 80 percent have surviving children and four out of five men and one of every two women still have a spouse.[98] Providing family care for the elderly will become still more difficult if substantial numbers of Americans have no children or only one.

Families maintained by women

With increased divorce and out-of-wedlock childbearing, lower rates of marriage, and single mothers' greater tendency to live on their own, households headed by women with children under 18 but no husband present have now become a prominent type of family living arrangement. In 1982, there were nearly 6 million such households, making up 19 percent of all American households with minor children—double the number in 1970 and triple the number in 1960.[99]

This trend has inevitably increased the proportion of children who live for some of their childhood in a fatherless home. About a quarter of children who were six and under in 1970 lived for at least a year in a fatherless home by 1979. Eleven percent spent more than half these ten years in such families and 5 percent lived with their mother only for all ten years. If the current prevalence of female-headed families persists, it is estimated that 40 to 50 percent of all children will live in a fatherless family for some time before they reach 18.[100]

Black children are more likely than white children to live with their mother alone because of blacks' higher rates of marital dissolution and out-of-wedlock childbearing and lower rates of marriage and remarriage. Fifty-seven percent of black children, compared to 20 percent of white children, who were six and under in 1970 experienced family living without a father for some time in the 1970s. Nearly 20 percent of black children spent the entire decade in a family headed by the mother, and only a third lived continuously in a two-parent home.[101]

Time and money constraints are the two main reasons for concern about the high incidence of female-headed families. Single parents have less time for parenting, although research has not shown that the quality of care provided by single parents falls short of that in two-parent families. Single mothers are often severely limited in the financial resources available for them and their children. Not surprisingly, single mothers report greater stress and strains in their lives than do most other people.[102]

Nineteen percent of households with children under 18 are now headed by single mothers.

Although single mothers with minor children made up only 19 percent of all family households with children in 1982, they accounted for 55 percent of households with minor children whose reported 1981 income put them below the poverty level. About 44 percent of fatherless families with children under 18 and 61 percent of those with children under six were classified as poor; for husband-wife families the figures were 9 and 11 percent. The 1981 median income of female-headed families with children under age 18 ($9,200) was about one-third that of similar husband-wife families ($26,200).[103]

Earning a living wage is difficult for a single mother, both because of the problem of arranging child care (which they share with all working mothers) and because they tend to be ill-prepared for the job market; many were housewives or part-time workers prior to a divorce and others are young, never-married women with little education. As a result, impoverished single mothers find it difficult to climb out of poverty by their own efforts and many remain below the poverty level year after year, with the most likely escape being marriage. Although welfare payments for single mothers, Aid to Families with Dependent Children, have kept pace with the increase in female-headed households, evidence concerning whether the availability of welfare encourages unmarried women to have children or men to desert their families is inconclusive.[104]

Extended family living

The trend toward nuclear family households and independent living obscures the importance of extended family living in the United States. While relatively few live in extended households during any particular year, many Americans find it convenient or necessary to live with relatives at some time during their lives. Though virtually all young couples now begin marriage in their own households, as noted, 19 percent of white couples and 43 percent of black couples reported in the early 1970s that they had lived with other kin for some time during the first five years of marriage. Most lived in the homes of parents, but some took kin into their own homes.[105] Extended family living also occurs during the initial adjustment to separation or divorce and when a person is old and in need of assistance.

For children, having a grandparent or another relative move in, or going to their home for a period, can be important when parents temporarily find it difficult to fulfill their responsibilities because of a death, serious illness, or a single mother's lack of time and financial resources. In 1975, 9 percent of elderly whites and 36 percent of elderly blacks reported that they had at some point had "substantial or primary responsibility" for grandchildren.[106]

Family Relationships Beyond the Household

Although most Americans may share a household with only a few close family members or none at all, they do maintain contact with a substantial network of kin, often over considerable distances.

Throughout the nation's history, kin have become dispersed, beginning with the first immigrations from abroad and continuing with migratory flows within the country from east to west, south to north, from rural to urban areas, and now from Frostbelt to Sunbelt, and from cities to the far suburbs and countryside. Family relationships have always been important forces in these migrations. In earlier times, parents with their married children and grandchildren or groups of families often migrated together and many moves to new areas were prompted because relatives were already there to help with relocation. But many others migrated alone or with only a small family core, and family ties became attenuated when contact depended on an erratic postal service or arduous travel over long distances. Even today, contact with dispersed family members involves considerable commitment, given the expense and difficulties of long-distance communication.

Although Americans continue to be highly mobile, however, studies have shown that most live close to at least some relatives and maintain contact with many through visits, frequent communication, and mutual assistance.[107] One study of newborn white children and their families living in the Detroit metropolitan area in 1962 found that five-sixths of these children had at least one grandmother and the majority at least one married aunt or uncle living in the Detroit area, and nearly half had a grandparent or married aunt or uncle living in the same neighborhood. Only about one in

Steve Turner

A family reunion. Though most Americans now share a household with only a few close family members or none at all, they do maintain contact with a substantial network of kin.

eleven of the children lacked nearby close kin. Sixty percent of these families got together with relatives at least weekly and only about 13 percent saw relatives less than once a month. Further, the large majority of the families received assistance from their relatives in the form of gifts, child care, help when sick, taking care of the house, financial advice, and loans. Almost half of the mothers, for example, had received help from one of the child's grandmothers following the birth of the child.[108]

The close involvement of young children with grandparents noted in this study would have been less possible in earlier times when fewer people survived to enjoy grandchildren. Improved life expectancy has now made possible intergenerational relationships which frequently extend across four and even five generations.

A study conducted in Muncie, Indiana, in 1977 showed that a high percentage of the close relatives of the residents surveyed lived within 50 miles of the city, including 61 percent of their living parents, 49 percent of siblings, and 68 percent of grown children. Most of those with surviving parents saw them at least monthly and almost half saw them weekly or more; siblings were visited about half as often. Additional contacts with relatives were made via letters and telephone and the majority of Muncie residents also reported that they exchanged aid with relatives.[109]

Most elderly Americans also have and interact with a fairly extensive network of kin, not only younger generations, as already indicated, but also siblings. A national study conducted in 1975 found that four-fifths of Americans aged 65 and over have surviving children, as noted earlier, about the same proportion have grandchildren, half have great grandchildren, and four-fifths have a surviving sibling. Only about 5 percent have no surviving children or siblings. In 1975, about half of the elderly with surviving children lived with a child or less than ten minutes away; another fourth lived no more than 30 minutes from a child. During the week prior to the interview, three-fourths of those with children saw a child, one-third with surviving siblings saw a brother or sister, and three out of ten saw a more distant relative. Seventy percent of the elderly with children reported providing assistance to them and nearly as many received help from children. Many also reported a similar exchange of help between them and grandchildren and great grandchildren. The elderly with failing health consistently report that relatives are their chief source of help, and relatives continue to be the primary source of emotional and social support.[110]

Undoubtedly, there are substantial numbers of Americans with few kin, others have many relatives with whom they do not interact, some relationships may be more negative than positive, and many relatives are unable, for whatever reasons, to provide support desired by family members. Nevertheless, the vast majority of Americans today clearly maintain active contact with a considerable number of relatives.

Change and Continuity

Present-day American family patterns present a mosaic of change and continuity. Some current patterns of family life—the high incidence of divorce and independent living—are clearly different from the past. Other dimensions—age at first marriage—are now very similar to earlier patterns despite substantial recent fluctuations. Some recent changes incorporate both new developments and a return to old patterns. For example, the influx of mothers into the paid labor force constitutes an important change in the roles of women, but the new economic involvement of women also represents a reinstitution, though in a new form, of the contribution women made to family production in earlier times.

Despite changes in family structure and relationships, most Americans still regard the family as central to their well-being and happiness. Given the central importance of the family, the magnitude of family change has had a powerful impact on human relationships and on the quality of the lives of many individuals. The new availability of divorce, of employment for women, and the chances for independent living have provided important opportunities for many persons; yet, they also have brought psychological, social, and economic problems.

Explanations for the changes in American family life are difficult. Certainly the long-term trends in urbanization, industrialization, and economic growth have influenced family patterns, but many changes in the family have not shown clear and consistent relationships with these long-term trends. Major events, such as the Depression of the 1930s, World War II, and the Vietnam War also have had important and perhaps lasting influences on family life.

Predictions of future trends in family patterns are hazardous. Given the scope of change, total reversal of recent patterns appears unlikely. We can probably expect that many people will marry only after a considerable period of living apart from their parents, either alone or with friends. Most wives will juggle home care and a job, with many taking little or no time out for childbearing and rearing. Most working wives will have only one or two children and their preschool children will usually be cared for outside the home during their mothers' working hours. Many young children will experience the breakup of their parents' marriage and then will be likely to live with their mother only, though most will later acquire a stepfather and a readymade new family of "step-relatives." Most women can expect to live alone, though near their children and grandchildren, at the end of their lives; the few elderly men who lose a spouse are likely to remarry.

But this scenario could change, just as family patterns have fluctuated in the past. Having at least three children could become fashionable again, as in the baby boom. More delayed marriage could mean more compatibility among couples once they marry and thus less divorce. Parents could assume more of the care of their own children with flexible working hours that allow one of them to be at home when children are, or as the computer age shifts the workplace back to the home for many women and even men.

Although future changes in the family could actually bring more rather than fewer problems, the resilience of the family amidst the changes of the past demonstrates the ability of family life to adapt in a changing world. Families and family relationships continue to play a vital role in today's world and are likely to do so in the future. □

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Population Bulletin

Planet Earth 1984-2034: A Demographic Vision

By Leon F. Bouvier

A publication of the Population
Reference Bureau, Inc.
Vol. 39, No. 1
February 1984

ISSN 0032-468X

Abstract—In recognition of 1984 as the year of both Orwell's famous futuristic novel and the International Population Conference following up the 1974 World Population Conference, this *Bulletin* examines the current state of world population and presents the author's speculations on what it might be 50 years from now. World population, now close to 4.8 billion and growing at 1.8 percent a year, is being shaped by three demographic phenomena: prolonged below-replacement fertility in developed nations, perhaps partly in response to the reduced need for workers in the emerging "information" era; rapid growth despite falling fertility in developing nations, due to earlier rapid mortality decline; and rapid urbanization in developing nations and unprecedented migration from poor to better-off nations. The author's assumptions for non-demographic factors related to population change in the next 50 years are: no world war, nuclear or otherwise; global resource adequacy; rapid scientific and technological progress, shared equitably; and the demise of capitalism and communism and greatly increased economic aid from advanced to less advanced nations. For 2034 he envisages nations divided into: (1) service/information societies (4 percent of global population) where immigration balances low fertility to prevent population decline; (2) industrialized nations (38 percent of the total), with fertility close to or at replacement level and growth slowing; (3) developing nations (43 percent), in sight of replacement-level fertility, and (4) least developed nations, with still critical demographic problems but only 15 percent of world population. He sees total population at 8.03 billion, but growth is down to 0.8 percent a year and global zero growth is possible in another 50 years. He warns that his relatively optimistic scenario for 2034 will only be possible if humankind acts to see that the stated non-demographic assumptions are borne out.

Editor: Jean van der Tak　Graphics: George Hager

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By Leon F. Bouvier

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POPULATION BULLETIN
Vol. 39, No. 1, February 1984

Planet Earth 1984-2034: A Demographic Vision

By **Leon F. Bouvier**

Population Reference Bureau, Inc.

About this *Population Bulletin* and its author

In this Bulletin, *demographer Leon Bouvier examines the present demographic situation of planet Earth and speculates what it might be 50 years from now. The inspiration for the* Bulletin *was both the arrival in fact of* 1984, *the fictional date of George Orwell's famous futuristic novel, and the designation of 1984 for the International Population Conference planned as a tenth-anniversary followup to the World Population Conference of 1974.*

The Bulletin *differs considerably from the Population Reference Bureau's usual publications. It does not rely primarily on standard demographic techniques and data sources; rather, it reflects the views and vision of one demographer, the author. Thus, the* Bulletin *is not intended as a specifically demographic article and it does not necessarily represent the opinions of the PRB, its officers or its staff.*

Leon Bouvier is Senior Research Associate at the Population Reference Bureau. He has served as staff demographer to two population-related commissions of the U.S. government—the Select Committee on Population and the Select Commission on Immigration and Refugee Policy. He is author of numerous Population Bulletins, *many articles in professional journals, and several books, including (with Robert Weller) the textbook* Population: Demography and Policy *(St. Martin's Press, 1981). He holds the Ph.D. in sociology from Brown University.*

The author appreciates the constructive advice received during his preparation of this Bulletin *from his colleagues at PRB—Cary Davis, Carl Haub, Elaine Murphy, Robert Worrall and, in particular, editor Jean van der Tak. However, the opinions expressed are solely his.*

The author wishes to dedicate this Bulletin *on the future of planet Earth to his eight wonderful grandchildren who will experience the 21st century. Hopefully, should they read this* Bulletin *in 2034, they will not think too unkindly about their "pépère."*

Thirty-five years ago, George Orwell gave us *Nineteen Eighty-Four.*[1] As humankind in fact reaches that ominous year, it is appropriate to examine just where we stand on this planet we call Earth. But beyond that, the mystique surrounding the year 1984 also tempts us to use it as a *starting point* from which to look once again into the future. This *Bulletin* is such an attempt.

It is not another "1984 revisited." Instead, in recognition of 1984 as also the tenth anniversary of the World Population Conference in Bucharest and the year of the International Population Conference scheduled for August in Mexico City, this *Bulletin* examines what the size, distribution and composition of the planet's population might be 50 years from now and what that will mean for Earthlings in 2034.

Projecting or predicting the future population size of the world or its countries and regions is not a novel idea, of course. As early as 1751, Benjamin Franklin in his "Observations Concerning the Increase of Mankind" assumed that the population of the American Colonies at that time was about one million. He then predicted: "This one million doubling, suppose, but once in twenty-five years, will, in another century, be more than the people of England, and the greatest number of Englishmen will be on this side of the water."[2] He also expressed concern that "the number of purely white people in the world is proportionately small" but explained that "perhaps I am partial to the complexion of my country, for such kind of partiality is natural to mankind."

The first set of world and regional population projections to be prepared by

Satellite view of Earth. NASA

the United Nations was published in 1952.[3] The Population Reference Bureau's *World Population Data Sheet*, which always includes a column on future population size, has been published annually since 1962. In this *Bulletin* we go beyond straightforward projections to examine how the demographic assumptions selected will reflect social, individual and political behavior around the world and what the results of these assumptions about demographic behavior will mean for the societies and the world of 2034.

All humans on planet Earth are population actors; that is what is meant by demographic behavior. We are born and, in turn, we give birth to others; we move or we do not move; we all die, but at younger or older ages, depending on numerous social as well as biological circumstances. Our decisions to have numerous offspring or none at all, our decisions to move within a country or across international borders, the fact that we can expect to live 50 or 80 years—all are affected by the political, technological, economic, societal and ecological forces that surround us.

Our demographic behavior will in turn determine whether the population of planet Earth—now around 4.8 billion and growing by some 83 million a year—will be up to 10 billion and still growing rapidly in 2034 or be closer to 7 billion and approaching stabilization or zero growth. Our population acts will determine whether 80 or 85 percent of the planet's population will be living in developing countries, as currently defined, and whether cultural heterogeneity will replace cultural homogeneity in some nations. It is thus important that our vision of the future not be limited to simple projections based on a series of alternative demograhic assumptions. While these serve a useful purpose, still more important is to consider *why* these assumptions are selected, that is, how our demographic behavior is affected by other forces and what the results will mean for humankind.

Setting the Stage: Some Demographic Precursors

Below-replacement fertility in developed countries

Sometime around 1973, a momentous new demographic phenomenon began to unfold throughout most of the developed world—fertility fell below the level of 2.1 births per woman needed to replace the population in the long run *and remained there*. Country after country—Canada, East Germany, West Germany, the United Kingdom, the United States—reported fertility rates under two births per woman in 1973 and still lower rates in the early 1980s (see Table 1). Actual population size did not begin to fall immediately in the early 1970s. This is because all of these nations experienced a rise in their fertility rate after World War II; some for just a few years; others, like Australia, Canada and the United States, for ten or 15 years. As a result, the number of young couples in the childbearing ages was relatively substantial in the 1970s so that even with extraordinarily low fertility *per woman*, births continued to outnumber deaths each year, reflecting what is called a population's built-in "momentum for growth." But by the late 1970s, the effect of that momentum had subsided in many European countries and in some, annual deaths began to outnumber annual births. Population decline was noted in Austria and East and West Germany. Continued immigration and the higher fertility of immigrants warded off decline for a while in other countries, but by the early 1980s, France and the United Kingdom were losing population, as well as Hungary in Eastern Europe.

In the more junior developed nations—United States, Canada, Australia, New Zealand—the trend toward actual population decline is slower because of the

Table 1. Fertility Rates in Selected Developed Countries: 1970, 1973, 1975, 1982

	Total fertility rate[a]			
Country	1970	1973	1975	1982
Europe				
Austria	2.32	1.95	1.84	1.70
Belgium	2.24	1.96	1.73	1.60
Denmark	1.95	1.94	1.92	1.43
France	2.47	2.29	1.93	1.94
Germany, East	2.19	1.58	1.54	1.86[b]
Germany, West	2.01	1.54	1.45	1.40
Hungary	1.96	1.95	2.35	1.79
Italy	2.37	2.33	2.19	1.57[b]
Luxembourg	1.97	1.55	1.55	1.58[b]
Netherlands	2.58	1.92	1.66	1.49
Norway	2.51	2.24	1.98	1.71
Spain	2.87	2.81	2.80	1.99[b]
Sweden	1.92	1.87	1.77	1.62
Switzerland	2.09	1.80	1.60	1.55
United Kingdom	2.44	2.02	1.81	1.84[b]
Other areas				
Australia	2.85	2.49	2.15	1.94[c]
Canada	2.33	1.93	1.90	1.70[b]
Japan	2.13	2.14	1.89	1.74[c]
United States	2.48	1.90	1.80	1.89

Sources: Jean-Noel Biraben, "L'Europe: données statistiques," *Population*, July-October 1978, p. 994; Alain Monnier, "L'Europe et les pays developpés d'outre-mer: données statistiques," *Population*, July-October 1983, Table 3, p. 833; and Center for International Research, U.S. Bureau of the Census, personal communication, January 1984.

[a] The *total fertility rate* indicates the average number of lifetime births per woman in a population if all women were to live through their childbearing ages (usually considered ages 15-49) bearing children at the same rates as women of those ages actually did in a given year. [b] 1981. [c] 1980.

reverberating impact of the tremendous post-World War II "baby boom" generation and because immigration levels remain high. Nevertheless, the U.S. Census Bureau projected in 1982 that the U.S. population would stop growing at about 309 million by 2050 and then begin to decline, given continued below-replacement fertility and if net immigration is limited to 450,000 per year.[4] Espenshade, Bouvier and Arthur have calculated that even with net immigration of 400,000 per year, the U.S. population would be reduced to 108 million before achieving zero growth in some 200 years, if the national fertility rate continues below replacement.[5]

Short-lived periods of such low fertility have occurred in the past. During the Great Depression of the 1930s fertility fell below replacement level in most of Western Europe and in the United States, for example.[6] But the rates began to climb again by the late 1930s in the United States and during World War II in Western Europe. Never before in modern history has fertility been so low in so many countries for such a long period as has been the case since 1973. And as of 1984, the rate in most developed countries shows no evidence of climbing back to the point where population growth, or at least population replacement, can be assured over the long run.

End of growth in developed world

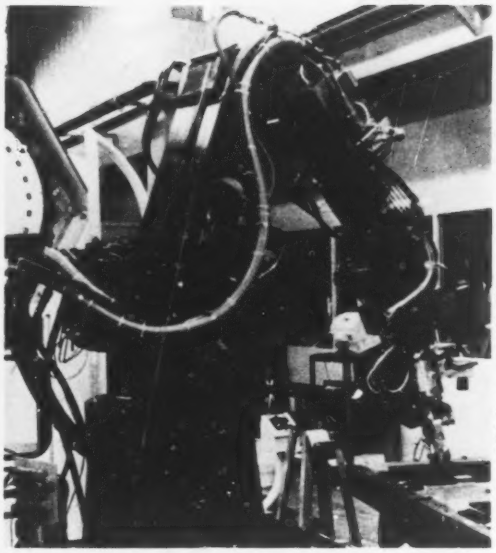
What is the significance of this new demographic pattern throughout most of the developed world? It suggests an adaptation to a new era. The developed nations of planet Earth may well be poised on the brink of an entirely new age when the quantitative demands for labor will be modest, although the qualitative demands will be great.

There have been harbingers of this momentous change. John Naisbitt notes in his 1982 bestseller *Megatrends:* "In 1956 for the first time in American history, white-collar workers and technical-managerial positions outnumbered blue-collar workers. Industrial America was giving way to a new society where for the first time in history most of us worked with information rather than producing goods."[7] Naisbitt named this the "information society." Sociologist Daniel Bell called it the "post-industrial society."[8] Demographer Anthony Richmond went one step further and labeled it the *Verbindungschnetschaft* (roughly, "sub-urban post-industrial") society as distinct from its predecessors *Gemeinschaft* ("rural-agricultural") and *Gesellschaft* ("urban-industrial") societies.[9] None of these social observers, however, have identified an end to population growth as an important ingredient in this emerging new society.

We are at the onset of a social upheaval as great as that touched off by the Industrial Revolution which began some 200 years ago in Western Europe and then spread to its colonies. Interestingly, a demographic revolution occurred then also. With the improved living conditions resulting from the Industrial Revolution, mortality began to fall gradually from the end of the 18th century. Couples took a while to adjust to the fact that more of their children were surviving and fertility generally did not begin to fall until late in the 19th century. During this interim period, population growth rose to over 1 percent a year in many Western European countries, rates which were unprecedented in world history to that time. This growth helped supply workers needed for the cities' burgeoning industries and immigrants for the "New World." Then Western European couples came to realize that they could take advantage of improving social and economic opportunities by having fewer, but better educated children. Today's population actors—at least those in developed nations—are once again responding appropriately to meet the needs of a new era.

This "information society," as Naisbitt calls it, benefiting from high technology and, by 1990, from robotic technology, will be knowledge-intensive rather than labor-intensive. The pattern of shifting the production of shoes or textiles, for example, to lower-wage developing countries is now being followed with the sophisticated "tools" of the information age. The 1983 decision by California-based Atari to move assembly-line work for its microcomputers to Hong Kong and Taiwan is but an early example of what is likely to become standard procedure. Even many service occupations may be eliminated in developed countries. Economist Wassily Leontief recently suggested that "the ability of the service sector to absorb displaced workers will diminish." He added: "As soon as not only the physical but also the controlling 'mental' functions involved in the production of goods and services can be performed without the participation of human labor, labor's role as an indispensable 'factor of production' will progressively diminish."[10]

Paralleling the technological evolution of their societies, developed nations are attaining demographic maturity. To borrow somewhat warily from the "organismic" sociologists of the 19th century, organismic demography would visualize societies following the same aging cycles as individuals. Societies are born (following a very long pregnancy) and rapid population growth immediately occurs. This is followed by an adolescent period



Thomas J. O'Halloran—USN&WR

Robots will displace much human labor in the new information age.

when growth is still taking place, but at a much slower pace. The United States is just emerging from adolescence at this time. Adulthood arrives, as it did in Western European countries in the late 1960s, and with total maturity no further growth is to be observed. (Occasional late spurts could be called "middle-age spread," but this would be carrying the organismic analogy too far!)

Some nations in the developed world are younger than others but all are now adults. Some have reached old age and face population decline. A few could eventually "disappear" as distinctive societies in the sense that ancient Greece and the Roman empire disappeared.

Continuing growth in developing world

But what of the developing world—the other 75 percent of planet Earth's current population? In some of these regions major demographic changes have also taken place. Soon after the end of World War II mortality began to fall precipitously in Latin America and in Asia, though not in Africa. The mortality decline that had taken up to a century in Western Europe occurred in about 15 years from the late 1940s to the early 1960s. Meanwhile, fertility remained high—much higher than it ever was in Western Europe where national birth rates were reduced during the 18th and 19th centuries because many women married late or not at all. The results in the developing world were rates of "natural increase" (birth rates minus death rates) of 3 percent and upward a year—two or three times what they ever were in Western Europe. Public concern over this "population explosion" began in the 1950s and rose to a pitch in the late 1960s with the publication of biologist Paul Ehrlich's *The Population Bomb.*[11] The 1970s gave rise to the controversy between those advocating development assistance and those favoring family planning assistance, but both camps were bent on solving the problem of rapid population growth in developing countries. Yet rapid growth continues to this day and will for some time to come, despite remarkable progress in reducing fertility in some of these countries. Why is this? How can population be increasing so rapidly while the average fertility per couple is falling?

In those countries that benefited most from mortality decline in the 1950s and 1960s, a "death dearth" occurred while fertility remained high. Infants and children who a generation earlier would have been likely to die remained alive to become the young adults of the 1970s and 1980s. These young adults constitute a giant generation in the childbearing ages—much larger even than that of the United States and Canada today which resulted not from mortality decline but from the fertility rise, or baby boom, of about 1947 to 1964. Even though these couples in many developing countries are averaging fewer children than their parents did, there are so many of them that the total numbers of births continue to increase each year and will for several decades, despite falling fertility rates. For developing countries the effect of this built-in momentum for population growth is larger and will last longer than the comparable "baby boom" effect in the

United States because previous fertility was so much higher and their mortality decline so precipitate. In Mexico, for example, women still averaged 6 to 7 births apiece in the late 1950s compared to the U.S. baby boom peak of just over 3.5 births per woman at about the same time. Currently the Mexican fertility rate is down to about 4.7 births per woman and the United Nations projects that it will be down to about 2.3 births per woman by 2025. Yet, the United Nations also projects that because of continuing large proportions of young people in the childbearing ages, annual numbers of births in Mexico will actually increase from about 2.7 million in the early 1980s to around 3.2 million births in 2025. That, coupled with further decline in the death rate, could mean that Mexico's population will balloon in a mere 45 years from 70 million in 1980 to 174 million in 2025.[12]

Figure 1 shows estimates and projections from the Centro LatinoAmericano de Demografia (CELADE) which sum up the picture for Latin America as a whole. The regional birth rate per 1,000 population has fallen rapidly since 1960 and will continue to fall much faster than the death rate to 2025 so that the *rate* of natural increase falls. But population *numbers* continue to grow dramatically and will still be mounting well into the 21st century.

Thus, this demographic change—the mortality decline—while justly heralded as the beginning of a better life for developing countries, also contributed to high growth rates in many countries where fertility is now falling. Unprecedented numbers of young adults have survived to have themselves what in the aggregate are even larger numbers of children, despite the drop in the average number of children per couple. This is compounding the problems of providing adequate care and education for dependent children and jobs and housing for the parent generation.

From this one should not conclude that mortality reduction should not be encouraged. On the contrary, every human being has the right to as long and healthy a life as possible. Furthermore, as life expectancy increases as a result of declining death rates, the contribution of mortality decline to population growth is reduced. When life expectancy at birth is as low as, say, 35 years, 35 to 40 percent of deaths in a population occur to children aged five and under, while 25 to 30 percent occur to those aged 60 and over. At a life expectancy of 75 years (as in some developed countries today), only 5 to 20 percent of deaths occur to small children, and 70 to 80 percent occur to those aged 60 and over. Demographers Davidson Gwatkin and Sarah Brandel point out the significance of this shift for population growth.[13] "Older people very rarely have children. Hence delaying the death of a 60-year-old adds only one person to the population. In contrast, when an infant is saved from death, the person saved is only the beginning. In later years that person's children, grandchildren and further descendants are added to the population in geometrically increasing numbers." This effect wanes as life expectancy increases. By the time life expectancy reaches 55 years (three years less than the overall average for less developed countries today) fewer young people are dying, so that another gain of five years in life expectancy "would yield an increase in the population only slightly more than half as large as a gain of five years from a life expectancy of 35 years."

International migration mounting

The current and future population picture of planet Earth is being increasingly shaped by a third demographic phenomenon—one that may be a reaction to the enormous growth in developing regions. Perhaps more than at any time in the past, residents of the poorest nations are making the decision to move across international borders, sometimes illegally, in search of a better life. Humans have always been peripatetic, but with

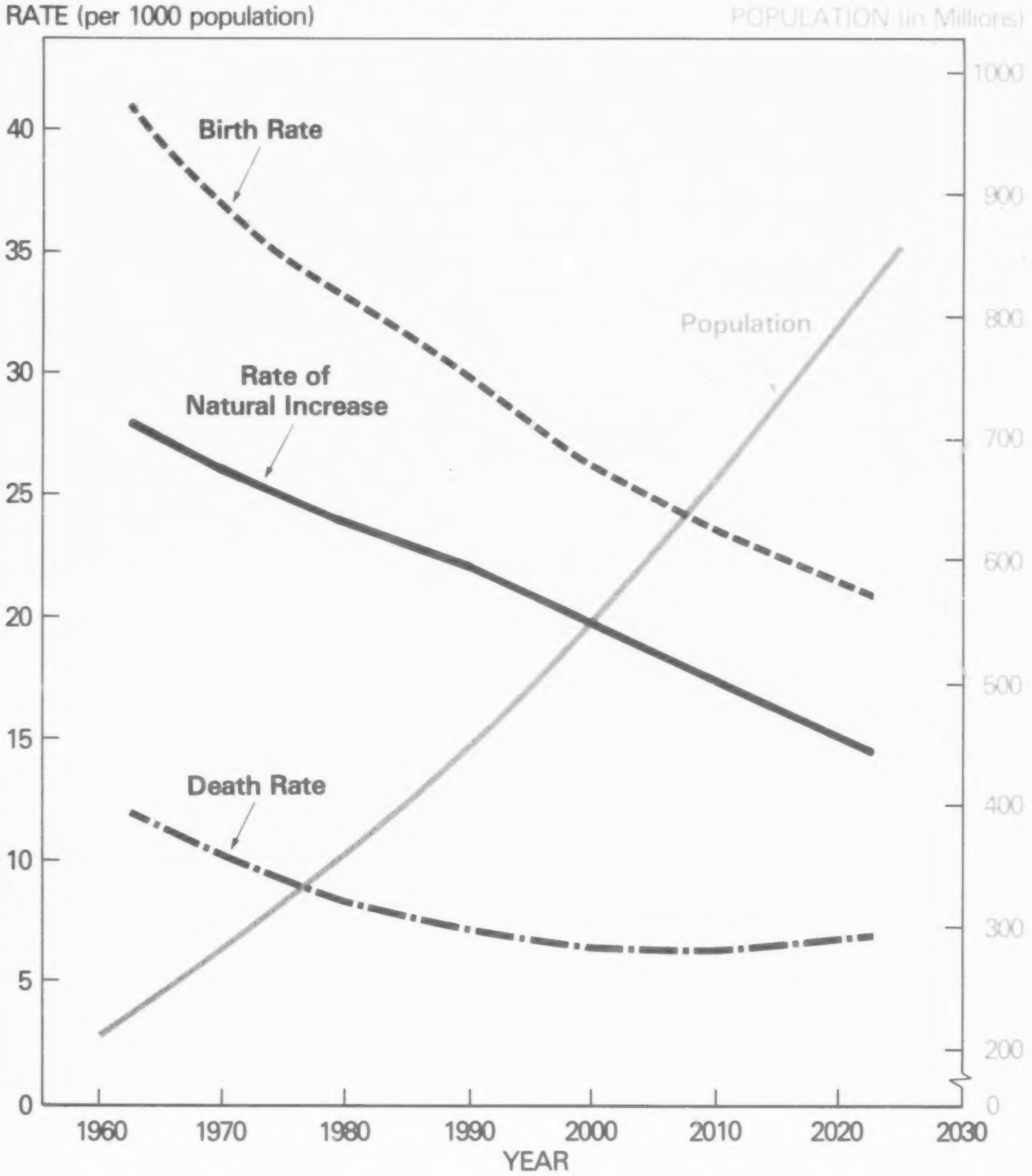


Figure 1. Latin American Birth, Death and Natural Increase Rates and Total Population: 1960-2025

Source: Centro LatinoAmericano de Demografia, *Latin American Demographic Situation as Assessed in 1980*, Series A, No. 168 (Santiago, Chile: 1981).

the emergence of nation states and political barriers in the late 19th and early 20th centuries migration had become relatively controlled. However, with recent spectacular advances in communications and transportation facilities, added to the staggering poverty in developing regions (caused at least in part by rapid population growth), more and more people are ignoring these constraints and are moving despite the possibly dire consequences. This is happening all over the planet, not only between developing and developed nations, but also between less affluent and more affluent developed countries, as from Portugal to France and Italy to West Germany, and between the poorest developing nations and their somewhat better-off neighbors, as from Egypt to Saudi Arabia and Colombia to Venezuela.

In 1948 the noted sociologist and demographer Kingsley Davis wrote:

> "Demographically the potential migration pent up in today's world is enormous. Not only is the earth's total population increasing at the fastest rate ever known, but the increase is extremely unequal as between regions. . . . As a result the previous inequalities of population distribution are being aggravated rather than alleviated. . . . Between the two kinds of areas the differences in level of living are fantastic. What more natural than to expect the destitute masses of the underprivileged regions to swarm across international and continental boundaries into the better regions? Like the atmosphere, the earth's population is characterized by high and low pressure areas, and one expects an inevitable current of migration from one to the other. Actual migration, however, is not governed solely by high and low pressure. It is governed by economic costs, political barriers, ethnic attitudes, and limited horizons. These barriers have slowed down migration to a snail's pace. One wonders how long the inequalities of growth between major regions can continue without an explosion."[14]

Davis' questions are now being answered by millions upon millions of people who are giving up their long accepted ways of life in search of something better. They may be legal immigrants whose decision to move results from considerable discussion and thought. They may be refugees forced to abandon their homeland because of political strife. They may be illegal immigrants who surreptitiously enter a country and lead guarded lives for fear of apprehension.

Together, these three demographic phenomena stem from the behavior of all of us as population actors; together they will contribute to the new and exciting era of the 21st century. Interestingly, all three demographic processes—fertility, mortality and migration—are involved in these trends: (1) In the developed regions, fertility has fallen to historical lows; (2) In developing regions, mortality has fallen considerably (and fertility is beginning to fall); (3) Throughout the world, massive migration is taking place as more people than ever search for what might be a better life. Understanding these three demographic changes is essential in any attempt to examine the future population of planet Earth.

Planet Earth's Population: 1984

At the outset of 1984, the planet's numbers are fast approaching the five billion mark. The population of planet Earth has more than tripled in the past century from about 1.5 billion in 1884 to nearly 4.8 billion in 1984 (see Table 2). It has doubled in the 39 years since the end of World War II in 1945 and would double again in the next 39 years if the current estimated growth rate of 1.8 percent a year were to continue. These are disturbing statistics to consider.

The 4.8 billion inhabitants of planet Earth are far from being equally distributed. Some 22 percent of the world's population resides in China, which has only 6.5 percent of the world's land area. Within China, about 94 percent of its some 1.03 billion people live in just 45 percent of the nation's territory.[15] Australia, the sixth largest country in terms of land area, is home to only 15 million people. Urbanization appears to have accelerated in all countries and about 40 percent of the world's population now lives in urban areas.

More important are the dramatic differences between the population statistics of less developed and more developed

Table 2. World Population: 1884-1984

Year	Population (in millions)
1884	1,514
1890	1,564
1900	1,650
1910	1,805
1920	1,860
1930	2,070
1940	2,295
1945	2,402
1950	2.526
1955	2,757
1960	3,037
1965	3,354
1970	3,696
1975	4,066
1980	4,432
1984	4,760

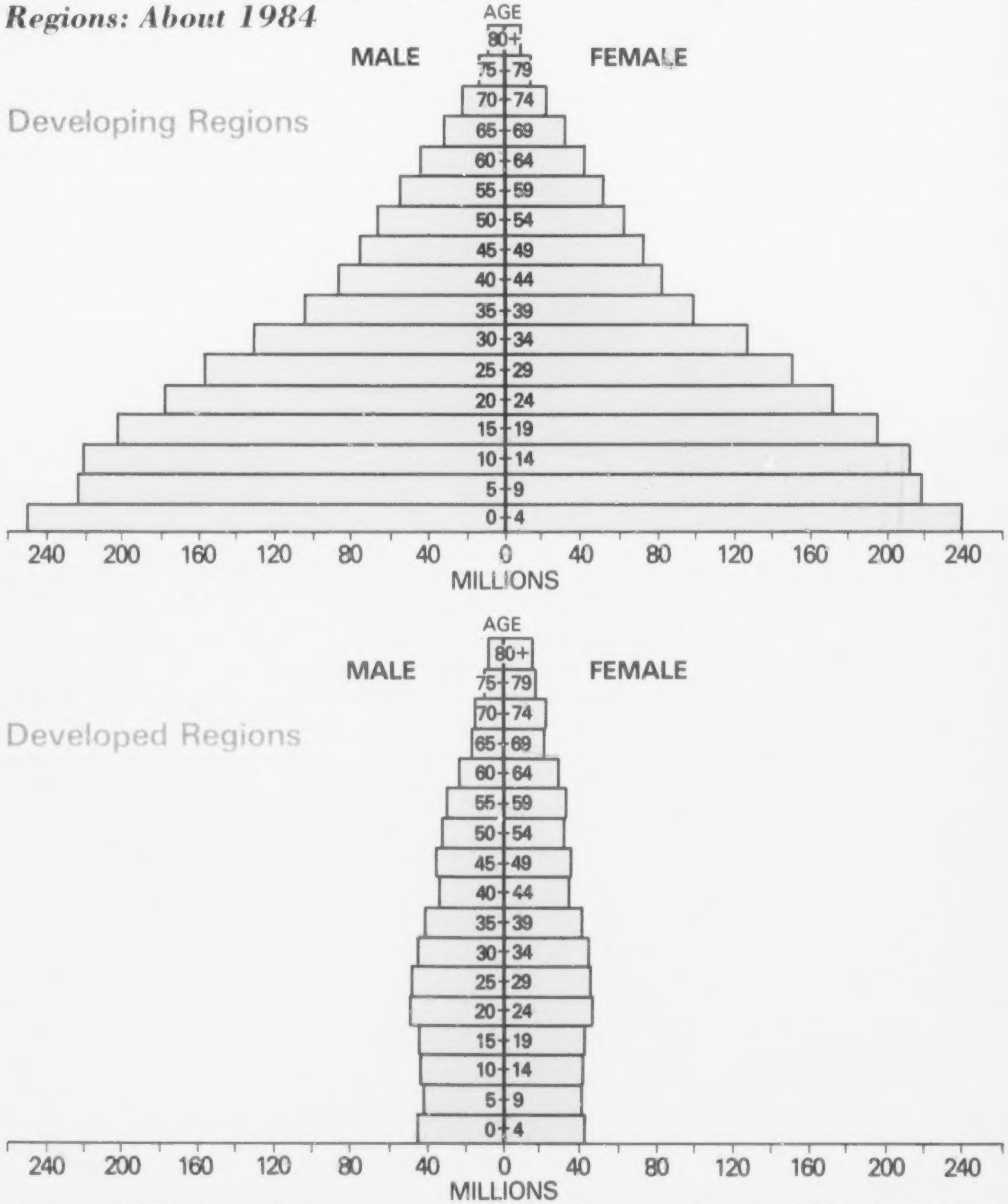
Sources: 1884-1945: Estimates given or derived from United Nations, *The Population Debate: Dimensions and Perspectives: Papers of the World Population Conference, Bucharest, 1974*, Vol. 1 (New York: 1975) Table 1; 1950-1980: United Nations, *Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980* (New York: 1982) p. 59; 1984: Population Reference Bureau estimate.

countries. About 75 percent of the world's population lives in less developed countries. In the rich developed countries as a whole, natural increase currently averages 0.6 percent a year which, if continued, would double their populations in 125 years. The average for the poor developing nations as a whole is 2.1 percent a year—a population "doubling" time of just 32 years. Inhabitants of rich countries can expect to live 73 years on average; those in the poorer developing nations, 58 years. Women in more developed countries currently averge 1.9 live births each in their lifetime; those in poorer countries, 4.5. As a result, the age composition of rich and poor nations differs radically, as seen in the population pyramids shown in Figure 2 (page 12). In the developing world, some 38 percent of the population is comprised of children under age 15 with their childbearing years still to come, versus 23 percent in the developed world as a whole. (Compare the broad base of the population pyramid for the developing regions with the narrow base of the pyramid for the developed regions.) Thus the built-in momentum for population growth is much greater in less developed than in more developed countries. This means that even if miraculously all women in the world were from now on to average only enough children to replace the parent generation (2.1 to 2.5 children, depending on mortality conditions), births would continue to outstrip deaths and populations thus grow far longer and relatively much larger in developing countries because of the higher concentration of people in the childbearing ages compared to those in the older ages where most deaths occur.

Reducing fertility

Several current demographic issues are controversial. One controversy rose to a pitch at the 1974 World Population Conference—whether reducing population growth requires more emphasis on family planning programs to make available the means for reducing fertility or on socioeconomic development to increase couples' motivation to reduce fertility. The Third World slogan, "Development is the best contraceptive," became well known, though not widely accepted. Some consensus has followed this heated debate; now most scholars as well as policymakers feel that both economic development and contraceptive utilization must be improved if population growth rates are ever to subside in many developing nations.[16] Some political leaders, however, remain reluctant to initiate family planning programs, partly out of fear that people will not accept them. But several developing nations have succeeded in reducing fertility to well under three births per woman: examples include Barbados, Cuba, South Korea,

Figure 2. Population Age Pyramids of Developing and Developed Regions: About 1984



Source: United Nations, *Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980* (New York: 1982) pp. 61 and 63, data for 1985.

Taiwan, and, of course, China. There are also many who have failed to reduce the rate below six births per woman: Bangladesh, El Salvador, Kenya, Nigeria, Pakistan, to name but a few. Two questions must be answered in order to reduce fertility markedly among the three-quarters of the world's population living in developing countries and thus to slow planet Earth's overall population growth rate. First, in those countries where success is almost nil, what new approaches should be tried? Second, in those countries where some success has occured, how can the pace be quickened to speed up the attainment of replacement-level fertility?

Interestingly, *low* fertility is seen as a problem in some countries. Some West Germans have lamented that "between the sheets we are a dying nation." Some Eastern European countries have tightened their very liberal abortion laws and stepped up pronatalist incentives in the hope of raising fertility. In some countries, such as Guyana and Nigeria, ethnic groups still vie with each other to become or to remain dominant numerically. Thus not all nations espouse lower fertility. Indeed, in certain less developed countries where fertility is quite high, the leadership remains convinced that there is room for expansion and committed to population growth. In Malaysia, for example, although there is a strong family planning program and fertility has been reduced to 4.3 births per woman, the Prime Minister recently argued that his nation could easily support 70 million people, nearly five times the present number.[17]

Lowering mortality

High mortality is a problem wherever it exists. Still to be found in sub-Saharan Africa and some Asian countries but intolerable in 1984 are life expectancies at birth as low as 45 years and infant death rates of 150 and upward per 1,000 live births. Though sub-Saharan Africa's mortality rate has been reduced in the past decade it remains higher than in any other region. Reducing it further should be given high priority on the national as well as world level.

Ironically, lower mortaility, while a goal to be sought by all governments, contributes to other problems. In developing regions, as noted, declines in mortality without matching declines in fertility have resulted in inordinately high population growth rates and the impact is felt for generations. In the advanced nations, low mortality has increased the proportion of elderly persons and the burden of providing the economic and medical support they need.[18] Yet life is the most precious of all our possessions and there is no justification for differences in longevity due to factors extraneous to the individuals concerned.

Table 3. World's Ten Largest Urban Agglomerations: 1984

Rank	Urban area	Population (in millions)
1.	Tokyo/Yokohama	21.3
2.	Mexico City	18.8
3.	New York metropolitan area	18.2
4.	Shanghai	17.0
5.	Sao Paulo	14.5
6.	Beijing	14.1
7.	Los Angeles/Long Beach	10.8
8.	Greater Buenos Aires	10.7
9.	Rio de Janeiro	10.2
10.	Seoul	9.9

Source: Derived from United Nations, *Estimates and Projections of Urban, Rural and City Populations, 1950-2025: The 1980 Assessment* (New York: 1982) Table 8, p. 61.

Increased migration

For decades, reducing fertility has been of most concern to population watchers. While that is still important, migration could become the most critical population issue in future years. *Within* developing nations, people are streaming from rural to urban areas and metropolitan centers in particular. As Table 3 shows, seven Third World cities now rank among the ten most populous "urban agglomerations" in the world. By contrast, in the most advanced nations—from Japan to the United States—city centers are losing population as more and more urbanites move to suburban fringes and beyond.

Movements of people *between* nations may be at an historical peak, counting all such movements: legal migration into and out of countries; refugee flights from and returns to homelands; and illegal "revolving door" migration in which millions of individuals move into neighboring

Lars Astrom—UNHCR

Many of the 15 million refugees contributing to unprecedented international migration are in African countries incapable of supporting them, like these Ethiopian refugees in Somalia.

countries, return home either as planned or as the economy falters, and then repeat the process. Migration streams have shifted dramatically in recent years and by 1984 are generally from less developed to more developed nations, or from "south to north." Refugees now number some 15 million throughout the world, many of them in African countries which are incapable of supporting them.[19]

The United Nations Charter on Human Rights promulgated in 1948 guarantees the right of people to leave and enter their country of origin but says nothing of the right of persons to enter other countries. Quite possibly, however, the right of people to move about the globe as they wish is an issue whose time has come.

Together these variations in fertility, mortality and migration are creating demographically different societies, some still very young, many getting older, others already old and getting even older. This refers to demographic median ages—the point at which half a country's population is younger and half older. Table 4 lists the ten youngest and ten oldest nations in 1984. Most developing countries are young, with a population median age well under 20. With up to half of their populations under age 15, their potential for population growth is enormous and they are burdened with the problems of feeding and educating these large numbers of children and finding the jobs and housing they will need as they grow older. At the other extreme, the demographically mature countries like Sweden and West Germany have median ages approaching 40, and 13 to 17 percent of their population is aged 65 or more (compared to as little as 2 or 3 percent in developing countries). Here the potential for population decline is significant and expenditures associated with the health and care of the elderly are mounting.

Thus the young and the old, though vastly different kinds of human societies, both have demographically related problems. One can only speculate as to what the future will bring. One thing appears certain: the demographic transition is complete or nearly so in most developed countries. The classic "demographic transition" model, hotly debated by demographers since it was first proposed in the 1930s, posits roughly four stages in a country's history of population growth or "natural increase" (migration is not considered in the model). Loosely, these are: (1) high birth and death rates, resulting in little population growth; (2) death rates begin to fall while birth rates remain high, resulting in rapid population growth (the excess of annual births over deaths increases); (3) birth rates begin to fall while mortality continues to fall, resulting in declining but still considerable population growth; (4) fertility hovers around replacement level accompanied by low death rates, resulting in very low or no population growth (annual births barely outstrip, or match, annual deaths). This last has been labeled the stage of "incipient" or threatened population de-

Table 4. Ten Youngest and Ten Oldest Countries: About 1984

Rank	Country	Population median age	Percent of population under age 15	Percent of population aged 65 or more
	Youngest countries			
1.	Botswana	14.2	49.9	2.6
2.	Kenya	14.3	51.8	2.6
3.	Liberia	15.8	48.4	2.6
4.	Malawi	15.9	48.2	2.6
5.	Syria	16.0	48.0	2.9
6.	Nigeria	16.1	47.8	2.5
7.	Zimbabwe	16.1	47.7	2.7
8.	Algeria	16.3	47.1	3.3
9.	Ghana	16.4	47.1	2.3
10.	Libya	16.7	46.4	2.8
	Oldest countries			
1.	Sweden	37.6	17.8	16.9
2.	West Germany	37.6	15.8	13.6
3.	Luxembourg	37.4	16.5	13.6
4.	Switzerland	36.5	17.6	13.7
5.	Denmark	35.7	19.3	14.7
6.	Italy	35.7	19.6	13.5
7.	United Kingdom	35.5	18.6	15.0
8.	Austria	35.5	18.2	14.1
9.	Belgium	35.3	15.8	13.4
10.	East Germany	35.2	18.7	14.2

Source: United Nations, *Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980* (New York: 1982), data for 1985.

cline. Developed nations are in this stage and some have already moved beyond it to a period of actual population decline as annual deaths exceed annual births. This heralds a new era on planet Earth.

Some Non-Demographic Assumptions

As noted earlier, a close relationship exists between demographic change and other changes that transpire on the planet. Such a relationship was demonstrated as the industrializing, now developed countries reached the second and third stages of their demographic transition and is apparent now that they are moving through and beyond the final stage. Thus it is vital to consider important non-demographic factors that enter into any projections of planet Earth's population in 2034. Relying on the knowledge and views of experts in each field, these are our assumptions for the next 50 years in four non-demographic areas: nuclear war and international relations, natural resources and space exploration, scientific and technological developments, and political and economic structures.

Nuclear war and international relations

There will be no Third World War, nuclear or non-nuclear. To assume otherwise would, of course, negate whatever value this *Bulletin* might have. Thus, while such a conflagration is certainly possible, we must assume that it will not happen at least in the next half century.

But other reasoning lies behind this optimistic assumption. For one thing, the two current superpowers—the Soviet Union and the United States—are entering new stages of societal living. The United States is among the leaders in the emerging computer-robotic revolution; the Soviet Union lags far behind. Can the Soviet Union continue to fall behind and remain a superpower? Militarily, probably, but not economically and politically. Though the Soviet Union will continue to rival the United States militarily, we assume that its relationships with the West and the United States in particular will improve with the shift to a new younger leadership, which—to judge from the age and uncertain health of Premier Andropov—will soon be forthcoming in that nation. Soviet expert James Billington recently wrote: "There is, I believe, a reasonable likelihood that the forthcoming generational change of leadership [in the Soviet Union] may bring with it greater change in policies than at any time since Lenin moved from War Communism to his New Economic Policy in 1921."[20] We assume, equally, that new leadership in the United States will see a return to the gradual rapprochement with the Soviet Union evident until the election of Ronald Reagan, further easing the recent tensions between the two major powers.

Although we assume no world war directly touched off by the United States or the Soviet Union, we recognize along with experts that recurring local wars could escalate into major nuclear or nonnuclear conflicts within the next 50 years, forcing the United States and the Soviet Union into confrontations that neither wants.[21] Among the danger points are: the Middle East, with its continuing conflicts within and between Arab states (Israel is likely to make peace with its neighbors); Central America, with the mounting frustration of its poor and exploding populations; Southern Africa, where native blacks within and surrounding South Africa will sooner or later move to regain the land lost to the descendants of European settlers. Here, we must assume that even though the overriding influence of the United States and the Soviet Union will lessen during the next 50 years, their common interest in avoiding confrontation will somehow work to contain these regional outbreaks and to prevent further nuclear proliferation. Further, we assume that peace movements, already strong in Western Europe and growing in the United States, will spread sufficiently to brake the buildup of arms and restrain national leaders from dragging the people of planet Earth into insane wars.

Natural resources and space exploration

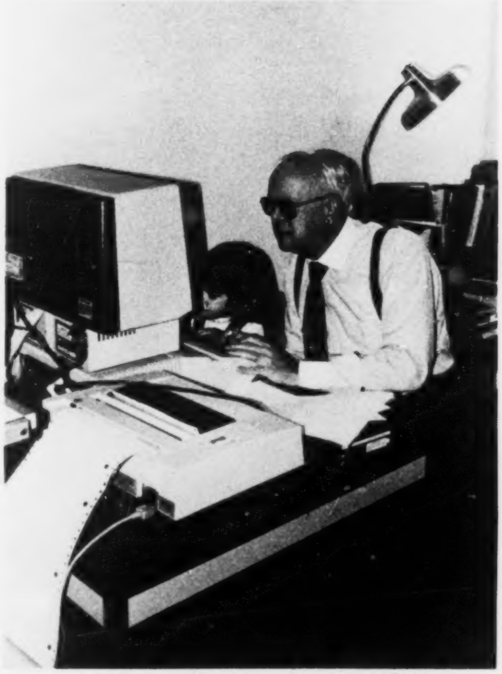
Making assumptions about the future availability and utilization of natural resources is particularly difficult. Some observers are convinced that the planet is already populated beyond the point where all its inhabitants can be adequately supported and sheltered.[22] Others feel the planet can support many more billions. American researcher Roger Revelle, for example, argued in the mid-1970s that with "relatively high-yielding cultivation" using present technology (including irrigation) applied to all potential cropland, the world could produce enough "for a minimum diet of 2,500 kilocalories per day for nearly 40 billion people."[23] In a recent article, Danish engineer Bernard Gilland labels such a vision "a nightmare to be avoided at all costs" and disputes Revelle's estimate of potentially arable land. He calculates that the planet could produce enough to provide a "reasonable" daily allowance of 9,000 kilocalories per person (for food, animal feed, and seed) for 7.5 billion people. Thus, he warns, this recommended dietary allowance cannot be realized as a world average unless the global population declines to this level after reaching a peak, as now projected, somewhere between 9 and 12 billion.[24]

In this *Bulletin* we assume that food, water, mineral and energy resources will be sufficient to sustain the people of planet Earth at least for the next 50 years. Famines will occur, particularly in parts of Africa and Asia and perhaps in Latin America, but these will reflect unequal distribution of food more than actual shortages. Our assumption of worldwide resource adequacy for the next 50 years does not deny the continued presence of true starvation and shortages of essential nonfood resources in many parts of the world or among the poor within nations. It merely suggests that solutions are available if money, brainpower and good will are directed toward solving the problems. Scientific advances can save the day. Chemist Bruce Merrifield is confident that "we are on the verge of major scientific advances that will enhance the productivity of land, water and raw materials around the world."[25]

Food supplies can be stepped up with wider application of "Green Revolution" technology, improved strains of plants and animals, new techniques that make tropical agriculture more productive, and aquaculture. Water shortages can be overcome by more recycling, conservation, and—by the early 21st century—widespread desalinization of seawater. Many metals and wood will be replaced by composite materials derived from virtually limitless substances, such as silicon, magnesium and titanium. New mineral sources will be accessible with new extraction methods. More minerals will come from ocean bottoms and from developing nations eager to sell their resources (although problems could arise if certain developing nations with near monopolies of critical minerals must, or choose to, cut off supplies, such as South Africa with its chromium). Sufficient energy will be available with conservation to stretch out dwindling reserves of oil and natural gas, more derivatives from plentiful coal, more use of solar, wind and hydroelectric power in areas where such resources are abundant, and increased use of nuclear power—fission (as its problems are overcome) and perhaps the beginning of nuclear fusion at affordable cost.

Continuing progress in space exploration and utilization suggests that space will begin to provide for some of planet Earth's needs in the next 50 years. Orbiting collectors will gather solar power to be beamed to earth for conversion to electricity. Robots will transport minerals from the moon and search for other sources in asteroids and, eventually, other planets. Robots will also operate factories in space. The first space colonies will be in orbit, manned by a few experts, although there is no likelihood within the next 50 years of establishing colonies in space or on other planets large enough to siphon off some of the world's overpopulation, as has been suggested.[26] The United States and the Soviet Union are likely to cooperate in the enormously expensive exploration of space, despite probable objections by politicians on both sides.

In a word, we assume that resources will be available to sustain humankind in the next half century, although living standards may improve only marginally, or not at all, for many among the masses living in what are today's developing nations and may even slip for some groups within the currently developed nations.



With computers, education can be tailored to individuals and available over a lifetime, leading to better educated populations than ever before.

Science and technology

Exponential growth—a term most used to describe population increase—is also appropriate to depict the progress to be expected in science and technology in the next 50 years.

Even with the recent incredible progress in development of computers, particularly microcomputers, we are still only entering what will be the most exciting era in communications in planet Earth's history. Today one silicon chip can hold close to half a million data bits through which information is sorted. By the turn of the century, it is expected that some two billion data bits will fit on one chip. With computers, education can be tailored to individuals and available over a lifetime, leading to better educated populations than ever before. With computers and further developments in satellite communication, the latest knowledge can be made available almost instantly to people throughout the world.

The discovery and future promise of the microchip are leading to a robotic revolution. Robots already perform many routine tasks. Fast being developed are computers with "artificial intelligence"—thinking robots "able to explore significant mathematical, scientific or engineering alternatives at a rate far exceeding human ability," according to a recent U.S. National Research Council report.[27]

Medical advances promise to enable planet Earth's inhabitants to live longer, healthier lives than ever before. Developments in genetics, for example, will lead to cures for many diseases, including cancer, elimination of others, and could even make it possible to slow the aging process itself. "The ability to control DNA [the genetic blueprint of life] will be more significant than the discovery of fire or the printing press," says Donald Coffey of the Baltimore Johns Hopkins University School of Medicine.[28] Gene therapy, sex predetermination, even the creation of life will probably become routine in the next 50 years.

Contraceptive technology has already made great strides. The decades ahead will see much more widespread availability and use of contraceptives to suit every couple: safe, low-cost, still more effective injectables and implants; long-lasting IUDs; vaginal rings; new post-coital methods; routinely reversible sterilization; safe, self-administered methods for early abortion; effective ways to pinpoint ovulation to improve natural family planning; and effective, acceptable contraceptive methods for men.

There will be problems in humankind's adjustment as the world is changed by scientific developments. Can we retrain or find other jobs for the workers displaced by robots at least in developed countries? How will we deal with the ethical issues emanating from biogenetics' increasing ability to create life? On the whole, however, this emerging era promises to be of great benefit to humankind.

Political and economic structures

Capitalism as we have known it for the past 200 years and communism as it has developed over the past 65 years will not prevail through the 21st century. Neither are appropriate for the coming era. Communism has already failed, as even romantic liberal idealists reluctantly admit. Capitalism, too, will wear thin as conservation necessarily replaces consumerism to better husband Earth's resources.

People will continue to work for profit. But gone are the days of the robber barons and early capitalists working for private gain. The 21st century will see the emergence of a new social consciousness. Democracy, as distinct from capitalism, will survive and thrive as it ceases to be bound by capitalist ideology. Political scientist Arthur Bronwell predicts:

> "Democracy will no longer be a dinosaur with an overgrown physiognomy and a stereotyped brain, with intellectualism and professionalism buried somewhere in the belly as an appendage. Its actions will no longer be bounded by the ideologies of the political leaders and the machinations of power politics in a Machiavellian power syndrome. Intelligence and professionalism will develop institutions in the free society context which will enlighten the whole of the political and social advance . . . . There will develop a flow of money directly from the people and corporations into the institutions of a free society, but with a far more knowledgeable basis of the contributions which these institutions make to society, as well as their quality and effectiveness in the use of funds."[29]

On the economic front we assume that the developing nations' demand for a New International Economic Order will finally meet with some success in the next 50 years. Currently the differences between the "haves" and the "havenots" threaten to grow more extreme as the advanced countries move into high technology and the less advanced countries strive not to catch up but to make some slight progress. Problems will continue as the have-not countries, representing an enormous proportion of the population, make demands on the rest of the world. But we assume that by the 21st century, the democratic world's emerging social consciousness will spread to include a greater sharing of the wealth with less advanced nations. This will also reflect the richer nations' realization that their own survival depends increasingly on the welfare, resources and markets of the poorer nations.

These four non-demographic areas will shape the future of planet Earth at least as much as population trends and will be closely related to the course of population change. We have made assumptions about all four that guide the projections of population change presented in the next sections. We assume no world war in the next 50 years, thus mortality rates will not rise dramatically because of warfare. We assume that somehow the global population will have sufficient food, energy and other natural resources to reach 2034. We assume that scientific advances will enable people to live longer, healthier, better educated lives and more readily control their fertility. We assume the end of capitalism and communism and the emergence of a new, as yet unnamed, democratically motivated economic order on planet Earth. With the prospect of a better life, couples in less advanced nations will no longer feel required to have many children to provide unpaid family labor and parental old-age support.

It is important to emphasize that these are assumptions and not predictions. One need simply reflect on the past 50 years to be wary of making predictions. In 1934, would we have expected what transpired over those 50 years? We have suffered through World War II and continual smaller conflicts. We have witnessed the emergence of the Soviet Union as a superpower. We have seen China become the first demographic billionaire. We have marveled at the growth in energy sources, particularly nuclear, and been frightened by the power of nuclear weapons. Man has landed on the moon and space ships have gone beyond the solar system. We have seen the incredibly important invention of the microchip and the latest computer, robot and satellite systems.

What will occur over the next 50 years? As Francis Bacon wisely counseled almost 400 years ago: "Dreams and predictions ought to serve but for winter talk by the fireside." Let us simply hope that our assumptions will prove to be correct. But if they are seen as predictions of things to come, let that be done by a warm fireplace.

Population Change: 1984–2034

Populations change in only three ways: through fertility, mortality, migration. The acts of all of us in these three areas will together yield the population of planet Earth in 2034—its distribution between different regions and between rural and urban areas, its age composition, and, of course, its size. These are our assumptions about changes in the three demographic variables over the next half century—changes shaped by the non-demographic assumptions stated above.

Fertility

Fertility will fall over the next 50 years in all regions where it is now high—sharply in all but a few. Increasingly aware that rapid population growth hinders development, the governments of most developing countries will try to induce their people to accept family planning. Some will go so far as to mandate the one- or two-child family, as is currently in vogue in China and South Korea. On the non-governmental side, people themselves will realize the benefits of smaller families, particularly as infant and child mortality rates fall and as their countries begin to industrialize. And as a result of the contraceptive and communications revolutions, most people on the planet will become aware that they can limit the number of their children if they so desire.

In Latin America, the crude birth rate, now hovering around 31 per 1,000 population overall and as high as 45 in some countries, will probably fall to a regional average of 20 per 1,000 by 2034. (The overall average for developed nations in 1984 is about 15.) Close to or below this average will be countries like Brazil, Costa Rica, Mexico and Venezuela. Others like Bolivia and Ecuador will lag behind, but there, too, fertility will fall.

In Asia, where population density is already intense, most governments will put tremendous pressure on their people to reduce fertility drastically. This will be especially true in China, Indonesia, South Korea, Taiwan, Thailand, and to a certain extent in India. Family planning programs will be stepped up in many countries over the next 50 years. By 2034, replacement-level fertility will be nearly achieved in India, Indonesia and the Philippines, and within sight even in Bangladesh and Pakistan. China, so important in any projections of future world population size, will achieve replacement-level fertility before 2000 and with a fertility rate slightly below replacement in the following decades, will be close to zero population growth by 2034. Thus its performance will rival that of its neighbor Japan, where fertility is already below replacement and could rise slightly over the next 50 years.

Fertility declines will be more modest in certain parts of Africa. In sub-Saharan Africa, the pressure to reduce fertility will not be so evident because of conflicting cultural interests and because mortality will remain relatively high. In some Middle Eastern countries where only minimal attempts have been made to lower fertility, cultural pressures will also keep fertility higher than in other regions over the next 50 years.

Among today's developed nations, only the Soviet Union will witness a fertility decline. In Western Europe, some Eastern European countries, Canada, the United States, Australia, New Zealand, and a few other countries, fertility, already below replacement, will remain at that very low level to 2034. Occasionally, the total fertility rate will spurt upward to 2.0 or 2.1 births per woman, but generally it will be as low as 1.4 to 1.8 and could fall even lower in some countries, given the lack of demand for labor in their increasingly automated industries. With the still high fertility of its non-Slavic minority groups, the fertility rate of the Soviet Union is currently about 2.4 births per woman but will fall gradually to replacement level by 2034.

As the impact of population decline becomes evident, several developed nations may attempt to raise fertility, as Bulgaria, Czechoslovakia, France and Hungary already have. In the 1960s, many people became aware of the significance of exponential growth. Even a 1 percent annual rate of population growth, which would double population numbers in 70 years, could not be allowed to continue indefinitely. At a 1 percent annual rate of decline, a population is reduced by half every 70 years. The latest concern has been reported from West Germany, where the fertility rate has been lowest in the world since 1973 and is now about 1.4 births per woman (see Table 1, page 5). A recent government report pointed out that if the current trend continues, the native population will fall from about 57 million today to 38 million in less than 50 years.[30] The trend already means shortages of military recruits and jobs for teachers and could erode social services as a shrunken work force fails to generate enough revenue to support elderly pensioners. We project little success in raising fertility and thus a number of European countries will lose population over the next 50 years.

Very low fertility in the developed countries and declining fertility rates in the developing countries now comprising

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Population decline is likely in demographically mature countries like West Germany with low fertility, high life expectancy, and a large proportion of elderly persons.

three-quarters of global population does not mean an early drop in the annual total *number* of births. Due to earlier high fertility and decreases in mortality, the proportions and numbers of young people in or about to enter the childbearing ages are enormous in the developing countries and the potential for continued population growth thus equally great. Even with fewer births *per woman,* the annual *overall number* of births in the world will increase for at least the next 30 to 40 years before leveling off and falling. Thus the immediate future will be difficult because the numbers added to world population will mount—from about 83 million a year currently to close to 90 million a year by the year 2000. Only sometime later will relief be forthcoming in a narrowing of the excess of births over deaths.

Mortality

As new cures for diseases are discovered and communicated among countries and living conditions improve in developing countries, death rates will fall and improvements in life expectancy will be noted throughout the world.

The gain in life expectancy at birth will be greatest for developing nations where the overall average is currently about 58 years, compared to the average of over 73 in developed nations as a whole. With progress in combatting infant and child mortality and infectious diseases which still take a heavy toll, life expectancy in 2034 could be close to 60 years even in sub-Saharan Africa. At present it is as low as 40 to 45 years in some countries of that region. In Latin America and in some parts of Asia, notably China, the figure may well be up to 70 or 75 years by 2034, the level of developed countries in 1984. We expect the overall average for today's developing nations to be around 70 in 50 years time.

By then life expectancy in developed nations may well hover between 80 and 85 years. This will reflect steady progress in finding cures for cancer and other chronic diseases that affect the elderly and new ways to slow the biological process of aging.

For population growth, such improvements are a mixed blessing, as we have noted. Declining death rates in the 1950s and 1960s in Latin America, for example, led both to increased rates of natural increase then as birth rates had not yet begun to fall and still high rates of natural increase currently, a generation later, despite the drop in the number of births *per woman,* because so many people who would have died in earlier times have survived to have children themselves. The same process can be expected in Africa as mortality decline takes hold there. The resulting high rates of natural increase will doubtless contribute to the inability of that region to make significant socioeconomic progress over the next few decades. Nevertheless, this should not deter Africans, with the assistance of developed nations, from making an all-out effort to combat mortality.

Table 5. World's Ten Largest Urban Agglomerations: 2034

Rank	Urban area	Population (in millions)
1.	Mexico City	39.1
2.	Shanghai	38.8
3.	Beijing	34.5
4.	Sao Paulo	32.4
5.	Greater Bombay	30.6
6.	Dacca	29.2
7.	Calcutta	28.9
8.	Jakarta	26.8
9.	Madras	23.3
10.	Tokyo/Yokohama	19.3

Source: Derived from United Nations, *Estimates and Projections of Urban, Rural and City Populations, 1950-2025: The 1980 Assessment* (New York: 1982) Table 8, p. 61.

Migration

With fertility expected to decline in all developing nations, migration, both within and between nations, could quite likely become *the* critical population issue in future years.

Within developing nations, the increase in the proportion of people living in urban areas, or urbanization, will continue at a rapid rate. Metropolises of a size unimaginable just a few years ago will emerge. Mexico City may well reach 30 million by the turn of the century and could be up to 39 million in 2034, having long before displaced New York as the world's most populous metropolis. Cities like Sao Paolo, Jakarta and Madras will become huge and only one city of a developed nation—Tokyo, with 19 million people—will still rank among the world's ten largest metropolises in 2034 (see Table 5). In the developed nations, the proportion of people living in urban areas is already 70 percent (compared to the current 29 percent in developing nations as a whole) and is likely to increase little if at all as people continue to move from metropolitan areas to less densely settled rural areas, as already observed in the United States, Japan, West Germany and other developed countries.

Urban health and sanitation problems will grow steadily worse in developing countries. More critical will be job requirements, which with the influx of people from rural areas mount more rapidly for cities than for nations as a whole. Already in Central America alone, some 90,000 new jobs must be created every year in metropolitan areas simply to keep unemployment at current rates. By the year 2000, more than 200,000 new jobs will be needed each year to cope with both the flood of job-seekers arriving from rural areas and the increasing number of young city residents reaching working ages. The potential for still more unemployment and social instability is great.

International migration has been an increasing source of concern since the late 1960s and early 1970s in the receiving countries of Western Europe, the Middle East and the United States. Millions of people are on the move. Despite many countries' efforts to limit both legal and illegal immigration, the enormous population growth projected for at least the next 20 to 30 years in many sending countries ensures that such movements will not soon decline. However, the flow from some developing countries may diminish slightly as they begin to industrialize after the turn of the century and can provide more employment for their own citizens. Indeed, one can imagine the Mexican government then being concerned to limit the influx of Central American immigrants into Mexico's new industrialized regions.

For the next few decades, the movement of people searching for jobs and a better life will, as now, be from the developing to the developed nations. Early in the next century the directions may change as the developed countries no longer require additional blue-collar workers and newly industrialized nations like Argentina, Brazil, Mexico and Korea develop needs to fill the lowest level jobs.

Immigration can be expected to make major changes in the cultural composition of presently developed receiving countries like Canada, Sweden, the United States and West Germany. With fertility below replacement, an increas-

Ray Witlin—World Bank

Jakarta, already crowded, will be huge by 2034, like other cities in rapidly urbanizing developing nations.

ingly large proportion of their future population will be recent immigrants from culturally different nations and their descendants. A potentially explosive situation exists in the Middle East where in some OPEC countries large majorities of the population are aliens who are not citizens and can never hope to be. The need for foreign workers will fade as Middle Eastern oil reserves decline and the area's own growing numbers of young people are trained. Will the foreigners be allowed to stay in Iran, Kuwait, Libya or Saudi Arabia or be forced to return to their native lands of Egypt, India, Jordan or Pakistan? This issue could lead to serious confrontations between some of these nations.

Population size, distribution and composition

Together these changes in fertility, mortality and migration will alter the face of planet Earth over the next 50 years. All three demographic variables will contribute to changes in the size, distribution and composition of the planet's population in 2000 and the years thereafter. World population will surpass 6 billion by the turn of the century. This means an increase of some 1.3 billion in just 16 years—significant indeed, but nevertheless reflecting a slight drop in the annual growth rate from 1.8 percent now to 1.4 percent by the year 2000. We should not be misled by this progress, however. A growth rate of 1.4 percent a year, if maintained, would mean a population of nearly 10 billion by 2034 and continued doubling every 50 years thereafter. Soon after the turn of the century, however, quite possibly the growth rate will fall substantially as fertility drops rapidly in most developing nations. The outlook is for difficult times in the near future but less difficult times thereafter.

The world's population growth between 1984 and the early part of the next century will not be equally distributed over the planet. The proportion of global population living in what we now call the less developed regions will increase from 75 to at least 80 percent. This suggests the possibility of more conflicts between the "have-not" nations demanding a new world economic order and the by then nongrowing or depopulating richer nations. By the year 2000, the United Nations projects that over half the world's people will be living in urban areas and more than 65 percent by 2034.[31]

Ever so gradually, humankind will "age," that is, the proportion of older people will grow and that of younger people decline. This will mean increasing expenditures for the care of the elderly even in developing nations. On the other hand, with fewer youths to educate, the quality of schooling should improve in many parts of the world.

Thus, as we move toward 2034 some major changes will be taking place in the population size, distribution and composition of planet Earth, due in considerable part to changes in technology, in resource utilization and in communications. New types of societies will begin to emerge.

Population in the Year 2034*

In April of this year, the venerable Population Reference Bureau of Washington, D.C., published its 72nd consecutive annual *World Population Data Sheet*. The Bureau, which celebrated its 100th anniversary five years ago, has been publishing the *Data Sheet* since 1962. While still called a "sheet," this is in fact a misnomer; since 2003, the "sheet" has been produced as a microcube, the normal method of publication in this century. The half-inch cube presents 77 different types of population-related data (up from 14 in 1984) for the world's 156 "geopolitical entities" and United Nations members (down from 171 in 1984, with the reunification of West and East Germany, South and North Korea, Taiwan, Hong Kong and the People's Republic of China, and amalgamation of small countries in Africa and the Caribbean that once tried to go it alone).

The *Data Sheet* for 2034 indicates that the world population has just passed the 8 billion mark. Indeed, it is estimated to be 8,028,452,110 as of July 1, 2034. The Population Reference Bureau calculated that the 8 billion mark had been reached on January 27 of this year. It was just 58 years ago that the Bureau attracted considerable attention when it proclaimed that planet Earth had reached the 4 billion mark on March 28, 1976.

The doubling of the world's population in the past 58 years represents an average growth rate of about 1.2 percent a year over that period. This is substantially less than 50 years ago in 1984 when the global growth rate was estimated to be about 1.8 percent a year. Indeed, the *current* rate of growth, according to the *Data Sheet,* is just over 0.8 percent a year. However, this growth *rate,* when applied to the 2034 population base of more than 8 billion, still means a *numerical* increase of about 67 million people a year. This is only about 16 million less than the numbers added annually around 1984 when the then 1.8 percent annual growth rate applied to a population of about 4.8 billion. If continued, the growth rate of 0.8 percent in 2034 would mean a doubling of the planet's population to some 16 billion in 90 years, around 2124. Clearly this cannot be allowed to happen. The past 50 years have seen considerable progress toward the universally desired goal of a stationary, nongrowing world population and fertility is now at or close to replacement in most parts of the world. But we still have a long way to go before world population actually stops growing. There is overwhelming agreement that the growth must end as soon as possible, to be followed by some decline in global numbers.

According to the *2034 World Population Data Sheet,* only about 7 percent of the people on this planet live in what were once called the "more developed" nations, compared to the 25 percent included in this category 50 years ago in 1984. We have long since changed our categorization of world population by "more developed" and "less developed" regions, however, and now classify nations into four types: the service/information societies, with a mere 4 percent of the world's population; the new industrialized nations, with 38 percent of the total; the developing regions, with 43 percent; and the least developed nations, with about 15 percent. India, now with over 1.3 billion people and still growing at close to 1 percent per year, displaced China five years ago as the world's most

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*In this and the following two sections, the author breaks all the rules of the demographic profession and *predicts* how the planet will look, population-wise, in 2034. While based on the non-demographic and demographic assumptions presented earlier, these sections move beyond simple extrapolation of those assumptions, or what is called projection, to a prediction of things to come, and are deliberately written as if it were 2034. As Francis Bacon advised, these predictions should be read "by the fireside."

Table 6. World's Ten Most Populous Countries in 2034: Author's Estimates

Rank	Country	Population
1.	India	1.3 billion
2.	China	1.3 billion
3.	Soviet Union	330 million
4.	United States	270 million
5.	Nigeria	265 million
6.	Brazil	260 million
7.	Indonesia	230 million
8.	Bangladesh	220 million
9.	Pakistan	200 million
10.	Mexico	165 million

populous country. China's population has stabilized at just under 1.3 billion. Trailing a long way after the two demographic billionaires in the list of the planet's ten most populous nations in 2034 are the Soviet Union in third place with 330 million and the United States in fourth place with 270 million and then, in order, Nigeria, Brazil, Indonesia, Bangladesh, Pakistan and Mexico (see Table 6). Mexico long ago bumped Japan from the "top ten" list. As the *Data Sheet* indicates, the estimated crude birth rate for planet Earth is 17 per 1,000 population and the death rate, 9 per 1,000 (compared to 29 and 11 per 1,000, respectively, in 1984). Life expectancy at birth overall is approximately 70 years, compared to 62 in 1984. As always, these figures vary significantly among the four regions.

These are the basic demographic data—the raw material that illustrates where planet Earth's population stands in 2034. But what do these facts mean? What changes do they reflect? Let us examine each of the four types of societies to understand both the situation in 2034 and how it evolved over the past 50 years.

Service/information societies

This group includes all of Europe except the Soviet Union and a few other Eastern European countries; the United States and Canada; Australia and New Zealand; and Japan. The Soviet Union has changed dramatically over the past 50 years but is still struggling to become truly service oriented; for reasons discussed later, it has not yet graduated from industrialized to service/information status.

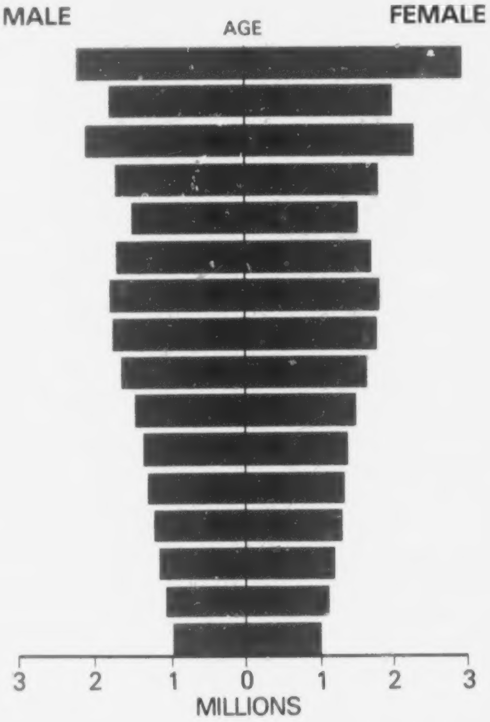
The service/information countries have witnessed below-replacement fertility for at least 60 years. This has been appropriate, given the exceedingly low demand for manual labor and, indeed, for human labor in general. The robotic revolution, together with the information revolution, has resulted in increasing numbers of jobs being performed first by mechanical robots and more recently by robots capable of decisionmaking. Such a change had been anticipated as early as 1982 when two observers wrote: "By 2034, it is conceivable that more sophisticated robots will replace almost all operators in manufacturing . . . . as well as a number of routine nonmanufacturing jobs."[32]

Such societies have little incentive for population growth. Many people have opted not to have children (or even to marry). Most couples who do have children are satisfied with one. This is appropriate, given the long training necessary to qualify for today's sophisticated occupations and the fact that men and women are equally capable of performing the duties demanded. The total fertility rate in most service/information societies has hovered between 1.4 and 1.7 births per woman.

Productivity has increased considerably as a result of more and more reliance on "steel-collar" robots (replacing the blue-collar workers of 50 years ago) and "thinking" robots (displacing many of the service and professional workers of days gone by). However, low fertility has meant an aging population for all the service/information nations and population loss for some. By the year 2000, almost all Northern and Western European countries (and a few more in Eastern Europe) had joined the few European countries where births already fell short of deaths in the early 1980s. As the second generation of below-replacement fertility produced so few females, it was impossible to halt the decline in population. Despite the reduced need for workers, concern about diminishing numbers grew. Further, with so few children being born, such societies inevitably are top-heavy with older people and have a median population age approaching 45 or even 50, as seen in the population age pyramid of a typical Western European service/information nation in 2034, shown in Figure 3. These nations began to ask themselves: How can we survive with falling numbers and without youth to develop new ideas to carry on the service/information revolution? One option was to rely increasingly on robots to replace the young population, but robots only reflect the intelligence of the humans directing them, and these humans overall were quite old. The other option was to allow more immigration from countries with surplus populations. But this inevitably results in a major change in the cultural makeup of the host countries.

Espenshade and Bouvier, in 1982, demonstrated that it is possible for a nation with below-replacement fertility to nevertheless achieve a stationary population at whatever level is desired if a given level of immigrants is allowed to enter.[33] Most European nations reluctantly adopted this alternative to maintain their societies, albeit at lower population levels. As organismic demography puts it: "These nations required a blood transfusion and it came from outside the region."

Figure 3. Population Age Pyramid of a Typical Western European Service/Information Country in 2034



Source: Author's projections for West Germany based on the following assumptions for 1980-2034: Total fertility rate constant at 1.46 births per woman; Life expectancy constant at 73.9 years for males, 77.5 years for females; Net immigration constant at 85,000 per year.

Shortly after the dawn of the 21st century, European nations like Germany (reunited into one nation soon after that), France, Sweden and Great Britain began encouraging a limited number of immigrants who were young and well educated. At first, neighboring European countries were encouraged to send their "best and brightest." Thus, as had been the case before "guestworker" admissions were limited in the early 1970s, Spaniards and Portuguese were enticed to move to France; the Irish to Great Britain; Italians to Switzerland and Germany; Finns to Sweden. Then even those sending countries, themselves worried about losing population, became reluctant to allow emigration and legislated an end to such movements.

The next step for France, Germany and the others was to turn to the Middle East, Africa and even Latin America for new transfusions of young adults. This time, reluctance came from the residents of the receiving countries and racial and ethnic issues became paramount. These nations were beginning to experience what the United States and Canada had

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Italian guestworkers arrive in Germany. Low-fertility European nations may again encourage immigration in the 21st century to ward off aging and population decline.

gone through a century or two earlier and what they themselves had experienced in the 1970s as deteriorating economies made foreign guestworkers unwelcome. This time most European countries made a determined effort to assimilate the new groups specially invited to settle permanently, whether Turks, Algerians, Tunisians, Ivoirians, or Colombians. New laws required that the new immigrants not only learn the language of the host country but also speak only that language in public, and the newcomers had to agree to have no more than two children.

New societies have now emerged in Europe—societies which are heterogeneous in composition but which will hopefully remain "German," "French," or "Swedish." It is still too early to tell if the plan has succeeded, but population decline has been arrested and most European countries now have populations stabilized at numbers considered appropriate. Germany enumerated 68 million residents at its most recent census (compared to nearly 80 million in West and East Germany in 1984); the United Kingdom enumerated 52 million (versus 56 million in 1984); and France, 50 million (against 55 million in 1984).

Aging and the threat of population decline have not been as drastic in other service/information nations. Immigration has always been prevalent in the United States and Canada. Indeed, immigration remained a problem for the United States as late as the 1990s, with a large source of potential new residents poised just south of the Rio Grande River as the populations of Mexico and the Central American countries grew rapidly. New legislation drastically reduced illegal immigration in the late 1990s, but the United States has continued to accept between 500,000 and 750,000 persons a year as legal immigrants or refugees. As a result, the U.S. population has never actually declined over the past 50 years and today hovers around 270 million (up from 237 million in 1984). It can be expected to remain at this level for the foreseeable future as 500,000 immigrants are accepted each year and the nation's fertility rate—though never so low as in Europe—nevertheless stays under two births per woman. With slightly higher fertility and a steady stream of young immigrants, the United States has managed to maintain a younger population than European service/information nations; today its median age is about 40 (up from 30, 50 years ago).

The United States, too, has been experiencing major changes in cultural makeup. This has not been so traumatic as in Europe and it has been in the best tradition of the United States over 300 years to adjust to new immigrants. Nevertheless, the United States of 2034 is barely recognizable from that of 1984. Approximately half the population is black, Hispanic or Asian, and white, non-Hispanic influence no longer predominates. Presidents have been of different races and of both sexes, and various areas of the nation encourage

Syukan Gendai

Japan could stabilize its population without immigration by keeping fertility right at the replacement level of 2.1 births per woman.

languages other than English. Indeed, almost every American citizen is fluent in both English and Spanish, though English remains the official language of the country as it has been by law since 1992.

Canada has shaped its population change to achieve a total population stabilized at 35 million (10 million more than in 1984). For some 60 years, levels of immigration into Canada have been determined in part by demographic needs. A 1983 study showed how adjusting immigration to various levels of below-replacement fertility could yield a predetermined nongrowing optimum population size.[34] Since then, annual immigration quotas have been set only after due consideration of current fertility levels.

Australia's population has grown only from 15 to 20 million in the past 50 years. Immigration, particularly of Asians, has been limited, also because of deliberate government policy. Nevertheless, about 30 percent of Australia's population today is not of European stock. But the country is maintaining its European-originated culture and its population size is not falling.

Japan differs from the other service/information societies. To this day it discourages immigration. But with its distinct societal customs and emphasis on a strong family, it has managed to maintain a population fluctuating between 120 and 125 million over the past 50 years by keeping fertility right at or just below the replacement level of 2.1 births per woman. Thus it is the best model on the planet of a pure stationary population not influenced by migration. The ingenuity of the Japanese, long evident in technology, extends to demographic fields as well!

In sum, the service/information nations have stabilized populations, though some are at lower levels than 50 years ago. These are the demographically mature societies of planet Earth; some are somewhat older, particularly in Europe; some a little younger, particularly Canada and the United States, Australia and New Zealand, and Japan. Japan excepted, their future cultural makeup depends greatly on how new immigrants will adapt to the host societies. This may be the most critical population issue facing the service/information societies as we move toward the middle of the 21st century.

Industrialized nations

Fifty years ago it would have been surprising to consider Brazil, Mexico, Malaysia and Turkey as industrialized nations. Yet over the past 50 years, population growth, combined with the aspirations of less developed nations, has fueled tremendous growth in the demand for and thus manufacture of industrialized products of all kinds—machinery, clothing, high-tech products. With the hitherto industrialized nations of Europe and North America abandoning that manufacturing role, other nations might have been expected to rush to fill the breach. In the vanguard were the "less developed" nations already approaching industrialization 50 years ago: the Philippines, for example, as well as what were then South Korea, Taiwan and Hong Kong.

The huge, almost insurmountable, problem facing these ambitious nations was the rapid population growth occurring in at least some, such as Mexico. But in those countries with a relatively literate working-age population and a strong desire to reduce fertility, the seeds of industrialization were planted and rapidly took root. Some countries have been more successful than others, but generally speaking, the industrialized nations of the world in 2034 include: in Asia, China, Korea (again one nation), Malaysia, the Philippines and Turkey; in Latin America, Argentina, Brazil, Chile, Costa Rica, Mexico and Venezuela; a few Eastern European countries; and the Soviet Union.

The latter is a special case that illustrates the impact of demographic behavior. Traditionally, the Soviet Union had been considered a "more developed" nation. There was some question, however, whether it should be so categorized, given its fairly high proportion of rural dwellers (close to 40 percent in 1984) and the surprising evidence that surfaced in the early 1980s that infant mortality was climbing and life expectancy declining.[35] Increasingly over the past 50 years, demographic trends have slowed development and contributed to social turmoil in the Soviet Union. Life expectancy remains lower than in other traditionally developed nations as military expenditures continue to divert funds from investment in better health-care delivery. The Russian ethnic group—long dominant in the nation—ceased to replace itself (as did the Ukrainians and Belorussians, the other two Slavic groups) and has been a minority since before 2000.[36] The country's non-Slavic ethnic groups, whose fertility remained well above replacement until recently, have grown steadily in size and influence. This has braked technological development as the central government's authority has been diluted and also because the non-Slavic groups remain somewhat less educated than Russians, still not fluent in the country's main language, and reluctant to abandon the habits of their more traditional societies. Although the Soviet Union is still one of the planet's major powers, these demographic factors have contributed to its failure to progress to service/information status by 2034.

Mexico will be an industrialized nation in 2034, though still struggling with rapid population growth.

Other nations in the industrialized category but close to the service/information borderline include China and Korea. China's situation is interesting in that it limited fertility prior to industrialization and this contributed to its becoming an industrial giant. Benefiting from the capitalistic experience of the formerly independent regions Taiwan and Hong Kong, China, with its benevolent socialist government, is the major growing power of the world as we approach the mid-century mark. Apparently close to fruition is the prediction made in 1983 by economist Masaya Miyoshi of its now service/information neighbor Japan:

"The 21st century will be the century of the Pacific Region—specifically, Asia. Japan will not enlarge its sphere of the world economy singlehandedly. Countries like South Korea, China, Taiwan and others will have higher [economic] growth rates than other regions with developing nations. Japan, good or bad, will benefit from being surrounded by these fast-growing economies."[37]

Other new industrialized nations like Brazil and Mexico are struggling because of continued rapid population growth. True, their fertility rates have fallen rapidly and are now just about at replacement, but the built-in momentum for population growth remains. In 2034, Brazil's population has just passed 260 million, Mexico's is at 165 million, and more growth is anticipated for the near future. These nations are aware that growth must be limited even more, and soon. Interestingly, both Brazil and Mexico are experiencing problems with immigration from their less fortunate neighbors as has been the case for many decades for Venezuela whose progress as an industrialized nation preceded that of Mexico's because of earlier exploitation of its oil reserves—now close to depletion, as are Mexico's.

These, then, are the industrialized nations of the world, comprising some 38 percent of world population and still growing, though at an ever lower rate.

Developing countries

This category includes the largest proportion of world population (43 percent) and the most countries. These countries remain to this day somewhat more rural than urban. But the cities are growing, close to three-quarters of the adult population is now literate, and fertility has fallen rapidly, particularly in the last one or two decades. With any good fortune, some such nations could advance to industrialized status within the next 50 years. The category includes: in Asia, India, Indonesia and Pakistan; in Africa, Azania (formerly South Africa), Ivory Coast, Kenya, Nigeria and Zimbabwe; in the Middle East, Egypt, Jordan and others; in Latin America, those countries not already industrialized.

Ray Witlin—World Bank

Assembly-line manufacturing transferred from more advanced nations could help ease India's unemployment problems by 2034.

India illustrates how high fertility has hindered these countries from advancing to industrialized status. Already 50 years ago, India was the world's ninth largest industrial nation in terms of total output. But the beneficiaries were limited to a relatively small educated upper and middle class who had begun to limit fertility to two or three children per family. Providing jobs for the masses of uneducated high-fertility rural and city dwellers has been an almost insurmountable problem. Now this has begun to ease with more and more assembly-line manufacturing transferred both from the service/information societies and newly industrialized nations, increases in direct foreign aid, and, most important, a recent rapid drop in the national fertility rate to within sight of replacement level. India's leaders are aware that the enormous numbers and proportions of children and young adults guarantee that the population will continue growing rapidly for decades to come and are applying pressure to reduce the fertility rate even further.

Emigration substantial enough to

serve as a safety valve has not been feasible for India, Indonesia and Pakistan, relatively isolated from more advanced nations except for the Soviet Union and China, which totally prohibit immigration, and Australia, Korea, Malaysia and the Philippines, which together admit only a few hundred thousand a year. Nor has it been an important outlet for the excess populations of the few African nations in the developing category. But desperate, job-hunting citizens of developing nations in Latin America have migrated in ever increasing numbers—some legally to Western Europe and the United States, but most illegally to the few more fortunate, now industrialized giants of the Latin American region.

Least developed nations

The last category, with about 15 percent of Earth's population, includes most of sub-Saharan Africa other than the five developing nations listed above, Bangladesh, some Middle Eastern countries, and a few other isolated cases. These nations present planet Earth with its most critical demographic problems in 2034. In most, fertility has only recently fallen below four births per woman and mortality is still falling; thus, population growth is rapid. Mass deaths from starvation and epidemics bred by overcrowding are a constant threat and sometimes a reality, as in Bangladesh in 2015. In that year, nearly 10 million Bangladeshi died in hunger riots, struggles with Indian border officials, and raging epidemics of typhoid and other infectious diseases before adequate aid could be marshaled. This jolted that nation's leaders into mandating a one-child family, but with limited success so far. The population is already at 220 million—in a land area the size of the state of Arkansas—and migration to India is now impossible. Sub-Saharan Africa, however, is awash with refugees and illegal migrants from similarly rapidly growing, desperately poor nations. So far only massive infusions of aid have assured these nations' survival. But there is a question of how long this can continue.

A new demographic transition model

For many decades, the demographic transition model, developed some 100 years ago by American demographers Frank Notestein and Warren Thompson, described the changes in population growth to be expected as societies progress.[38] To be sure, there were many criticisms of the model.[39] Nevertheless, it did serve as a useful guide to the fertility and mortality patterns already observed and to be expected in future years.

With the appearance of below-replacement fertility in the 1970s and 1980s and its continuation to the present day in the service/information societies, a new model has evolved among 21st century demographers, again with numerous criticisms, but still a rough description of what has occurred and what may follow in societies as they move along the road of progress. The new model borrows from the earlier transition model, but eliminates the first stage where high death rates matched by high birth rates result in very little population

Overcrowding could reach crisis proportions during the next 50 years in fast-growing Bangladesh.

growth. With improvements in medical technology and in communications and transportation, mortality has fallen sufficiently everywhere to make such a stage nonexistent in 2034. The new model borrows its terminology from biological sociology. It describes four stages, called Youth, Adolescence, Adulthood and Seniority to reflect variations in population median age. All the nations of the world can be categorized as currently in one of these stages, although some are borderline cases.

In the Youth stage, fertility is high but falling, with crude birth rates around 30 or 35 per 1,000 population, and even as high as 40 in some nations. Death rates are falling rapidly and as a result, rates of natural increase are at least 2.0 percent a year. This is well down from the overall average of 3.0 percent in Africa, for example, 50 years ago, but if continued, the 2.0 percent growth rate would double these nations' populations in 35 years.

In the Adolescence stage, growth is still occurring. Birth rates have fallen to the mid-20s per 1,000 population but death rates have plummeted to around 8 or 10 per 1,000. Average annual growth is around 1.5 percent (a population "doubling time" of 46 years), but fertility is quite low and growth is accounted for by the rapid decline in mortality.

In the Adulthood stage, there is no natural growth. Birth and death rates tend to equal each other; sometimes one is higher, sometimes the other is. This marks the beginning of the period beyond the demographic transition and corresponds to the final stage in the original demographic transition model.

The Seniority stage is the final category in the new model. Here deaths steadily outnumber births. As the proportions of elderly persons increase and populations age, death rates per 1,000 population climb and birth rates per 1,000 fall even more so that population numbers fall ever more rapidly.

The final stage in the original model, labeled the stage of "incipent" or threatened population decline, hinted of a fifth stage, now realized in the Seniority stage. This final stage of the new model also presages a fifth "stage," this one the ultimate result of continued excess of deaths over births—"demographicide," or the end of a society.

As with the earlier model, migration is not considered in the new demographic transition model. However, as noted, migration can serve as a transfusion to ward off a nation's entry into or progress through Seniority; it can also serve as a safety valve for the rapidly growing nations in either the Youth or Adolescence stages. Even with migration left out, the new model is a useful outline of the population changes occurring as we approach the middle of the 21st century.

The Non-Demographic Picture: 2034

We have all been busy demographic actors over the past 50 years. Almost all of us on planet Earth decided to have fewer children than earlier generations did. Many of us decided to move, often across international borders. Most of us have lived longer than the average human ever did before in the history of the planet. All these changes in demographic behavior have been influenced by changes in important non-demographic factors.

Nuclear war and international relations

It has now been almost 90 years since the end of World War II. Relatively speaking, the planet is at peace. True, we have seen a number of smaller regional wars over the past 50 years, particularly between 1985 and 2010. Regional rivalries continue; China's growing power is seen as a threat, certainly by the Soviet Union. Yet we have managed to avoid nuclear confrontation. With hindsight, we can see that this can be attributed to the nuclear disarmament movement, beginning in the 1980s. Aided by the newly developed communication technology of that period, which revealed to more and more people the total destruction that would sooner or later follow even a "minor" nuclear exchange, the movement succeeded in recruiting hundreds upon hundreds of millions of supporters. This eventually led to the ousting of political leaders bent on playing war games with the lives of their people.

International relations have improved in the process, due in large part to migration and the resulting cultural changes in some countries. In Europe and the Americas especially, humans have finally begun to think more internationally, perhaps in part because of the changing nature of their own societies, but also because they are becoming increasingly aware of the growing interdependence of nations of this planet. The concept of nation is slightly blurred as we move toward the mid-21st century. Nations still exist, to be sure, but we are more and more aware of our neighbors and their needs and the importance of assisting less fortunate nations. This interest and concern took on a practical shape in the early 2000s as threats of war declined and the major powers began allocating fewer dollars for military arsenals. To us in 2034, it appears positively ridiculous and immoral for a nation to dispense some 24 million dollars per hour in military expenditures. But that was the U.S. military budget in 1983.[40] Relieved of this burden, the advanced nations now in the service/information category allocated for aid to the developing and least developed nations proportions of their national budgets that reached several times the target of 0.7 percent of Gross National Product recommended back in the 1960s and subsequently reached only by Denmark, the Netherlands, Norway and Sweden. The result was not only a vast improvement in international relations but also a tremendous boost in the world economy, just as international economists and Third World countries had argued in vain in the 1970s and 1980s. With developing nations able to finance their increasing consumer demands, both they and the new industrialized nations profited. And the least developed nations survived.

Natural resources

Fifty years ago, the world was concerned about its ability to feed all its people and to find the resources to continue energy consumption at the levels of that period. Increased pollution was also a major concern. These problems remain with us today. Somehow humankind has managed to plow along, very awkwardly finding ways to increase food production and mineral supplies; learning to conserve energy and developing renewable sources of energy, such as solar power, as alternatives to now nearly exhausted oil and natural gas reserves and environmentally hazardous use of coal; and tackling the global pollution that has escalated with the growth of huge metropolises in all but the service/information nations. But the problems remain critical; indeed, more critical than just 50 years ago, for the obvious reason that planet Earth's population has nearly doubled in the interim.

On the brighter side, it is true that advanced nations are allocating more and more funds to research in these fields. Hope springs eternal that newly discovered minerals from the moon and even other planets may eventually meet some of our needs. And we have learned ways to improve the safety of nuclear fission, and widespread use of renewable, nonpolluting, relatively safe nuclear fusion appears to be a possibility within our lifetime.

Space exploration

This has certainly been one of the high points of Earth's history over the past half century. We have explored the planets of this solar system, although very few humans have set foot on these mysterious bodies in space. The Viking 2 that touched down on the planet Mars in September 1976 carried the first robot used in space exploration. A few years later it was predicted: "If we succeed in creating orbiting space colonies or industrializing the moon, asteroids and other planets, it will be with major assistance from robots."[41] Space colonization and industrialization have been deferred as impractical in solving our current population and employment problems. But improvements in robotics have indeed made it possible to send thousands of robots to the moon and even some planets to return with samples of minerals in which much of the hope for Earth's survival has now been placed.

Technology

Technology has made tremendous strides over the past 50 years. Communication is now instant throughout the planet. This has had a tremendous impact on all facets of human life, especially contributing to improvements in international relations and in the world economy. Progress has also been dramatic in biology and human genetics. Predetermining sex and fetal impairments or diseases that could be fatal to newborn infants is now routine. We have developed new methods of early abortion so that the number of unwanted or unplanned pregnancies resulting in birth is almost nil in the more advanced nations. This has further reduced infant mortality and fertility. The ethical issues associated with biological and genetic development still remain unresolved. But overall, scientific and technological progress has been of great benefit to humankind.

The economy

The aforementioned drive to assist the least developed and developing countries after the year 2000 was perhaps the most successful program ever attempted on planet Earth. The emergence of a new economic order, together with the demise of capitalism and communism, augurs well for the future of the planet. With resources scarcer than ever and pollution from industrial growth escalating, finally there is general agreement that continued economic growth is not necessarily good. This is in line with the arguments put forth 60 years ago by economist E. P. Schumacher in his widely admired but then little heeded work, *Small is Beautiful.*[42]

Population outlook

The picture of world population in 2034 shows zero growth only in countries comprising 4 percent of the total population. Zero growth is far from a reality on the planetary level and the concerns with overpopulation expressed in 1984 are even more acute in 2034. Clearly the planet's present 8.03 billion population cannot be allowed to double in the next 90 years as it would if the current growth rate of 0.8 percent a year were to continue. However, there is growing optimism that growth can be slowed drastically and zero growth achieved in the near future, followed, hopefully, by some reduction in total world numbers. The next few decades must and can bring solutions to the problems of still rapid population growth in sub-Saharan Africa and especially in the Asian giants of India, Bangladesh and Pakistan. Stopping the growth of planet Earth's population at a peak somewhere between 10 and 12 billion appears possible within the next 50 years, just as projected by the United Nations as long ago as the early 1980s.[43] This, however, can be achieved only if the fertility rates of the developing and least developed countries immediately fall the remaining small distance to replacement level and then are reduced still further in the most populous of these nations.

Toward a New Society?

Today in 2034 one may wonder why the Population Reference Bureau ever published a report on the global demographic outlook for 1984-2034. What is the meaning of 1984? Alas, George Orwell's fictional *Nineteen Eighty-Four*, published in 1949 and read by tens of millions in 62 languages, is now little known. Probably this is because its portrayal of a totalitarian world in constant warfare by 1984 proved quite incorrect. Few people recall that Orwell himself stated: "I do not believe that the kind of society I describe necessarily *will* arrive, but I believe (allowing, of course, for the fact that the book is a satire) that something resembling it *could* arrive."[44] However, another early 20th century visionary, the great mathematician-philosopher Albert Einstein, did warn the people of the planet: "We shall require a substantially new manner of thinking if mankind is to survive."[45]

Perhaps as a result of Einstein's warning, many people in 2034 are rediscovering two other 20th century authors whose works are now over a century old—the French philosopher Teilhard de Chardin and Lester Frank Ward, the father of American sociology. Teilhard viewed evolution as an incomplete but ongoing process, with humankind always evolving, both mentally and socially, toward a final spiritual unity, a state he called Noösphere. Ward felt that through the social sciences humankind would move toward what he called "Sociocracy" where education would be the dynamic factor leading to a new type of social order.[46] Both argued eloquently for placing the good of society above that of the individual, to the ultimate benefit of the latter. Teilhard's Noösphere and Ward's Sociocracy are now being seriously discussed among intelligentsia as answers are earnestly sought for the problems we all face as the mid-21st century nears. Will this lead to new societies on planet Earth? Capitalism as it was known in the 20th century and communism have disappeared and a new social democracy—a "Sociocracy"—may be emerging in many countries.

Back in the 1970s, some people expressed concern that the combination of rapid population growth in developing regions and below-replacement fertility in the developed capitalist countries would lead to the demise of Western capitalism. While demographically correct, the concern was misplaced. Western capitalism played a vital role in the evolution of humankind on this planet, spawning, as it did, the Industrial Revolution of the 18th, 19th, and early 20th centuries and the scientific and technological revolutions of the later 20th century. But as we move toward the mid-21st century after the tremendous changes that have transpired in the past 50 years, capitalism—or communism, for that matter—is no longer appropriate. The renewed interest in Teilhard and Ward suggests the emergence of a whole new way of life, one that will be more rational, will aim toward zero population growth worldwide as soon as possible, and toward increased international awareness and decreased national chauvinism—in a word, toward permanent peace.

Epilogue

This has been a generally optimistic scenario of the next 50 years on planet Earth. Basic to this optimistic view were two assumptions. We assume that human beings will, in their own selfish best interests, see to it that political leaders are not allowed to introduce warfare among the nations of the earth, so that we all survive; and see to it that all residents of the planet share in the benefits of developments in technology and the sciences. Humankind can solve the problems facing planet Earth *if humankind so desires.* This assumption concerning future human behavior reflects one recently put forth by author Herman Wouk:

> ". . . . it is not to say that humans will suddenly in 1984 begin thinking rationally about the future. That would be too much to hope for. Rather, it assumes that humans will not act irrationally and will somehow plow along, somehow find the ways to make it through."[47]

That is about as optimistic as we can get.

There is no assurance that humankind will not act irrationally; that humankind will see to it that leaders do not force us all into international warfare; that we do not rape the planet of its precious resources; that we do not create massive pollution. There is no assurance that the enormous population growth in some parts of the world will not lead to an even more massive eruption of people across international borders looking for a better way of life. Kingsley Davis, as noted, suggested such a possibility already in 1948. In the mid-1970s, the late President Houari Boumediene of Algeria warned (or threatened?):

> "No quantity of atomic bombs could stem the tide of billions . . . . who will some day leave the Southern part of the world to erupt into the relatively accessible spaces of the rich Northern Hemisphere looking for survival."[48]

This *Bulletin's* relatively hopeful scenario will not take place if humankind does not remain on vigil to assure that conditions improve for all. Population growth could continue unabated in Latin America, in Africa, in Asia. Hoards of people could leave the less developed countries and force their way into the developed countries, as fictionalized by the French novelist Jean Raspail in his book *Camp of Saints.*[49] All this could lead to further international confrontations and nuclear war. We simply cannot make such predictions. We must remain optimistic and hope, as John Stuart Mill wrote in 1857:

> "If the Earth must lose that great portion of its pleasantness which it owes to things that the unlimited increase of wealth and population would extirpate from it, for the mere purpose of enabling it to support a larger, but not a happier or a better population, I sincerely hope for the sake of posterity, that they will be content to be stationary, long before necessity compels them to it."

When Mill wrote these words, the population of the planet numbered less than 1.5 billion.

More recently with the population approaching 4.5 billion, these hopeful words were uttered:

> "There are real and growing dangers to our simple and most precious possessions: the air we breathe; the water we drink; and the land which sustains us. The rapid depletion of irreplaceable minerals, the erosion of topsoil, the destruction of beauty, the blight of pollution, the demand of increasing billions of people, all combine to create problems which are easy to observe and predict but difficult to resolve. If we do not act, the world of the year 2000 will be much less able to sustain life than it is now. But there is no reason for despair. Acknowledging the physical realities of our planet does not mean a dismal future of endless sacrifice. In fact, acknowledging these realities is the first step in dealing with them. We can meet the resource problems of the world—water, food, minerals, farmlands, forests, overpopulation, pollution—if we tackle them with courage and foresight."

Those are the words of U.S. President Jimmy Carter in his farewell address to the American people in January 1981. One final prediction: These words will be remembered in 2034. ☐

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Population Bulletin

Israel's Population: The Challenge of Pluralism

By Dov Friedlander and
Calvin Goldscheider

A publication of the Population
Reference Bureau, Inc.
Vol. 39, No. 2
April 1984

ISSN 0032-468X

Abstract—This *Bulletin* describes the interplay of demographic and sociopolitical processes in Israel since the state's founding in May 1948 and projects what it might be to 2015. Heavy Jewish immigration, especially during the "mass immigration" of 1948-51, has balanced the high natural increase of Moslems, who comprise the majority of Israeli Arabs, so that the proportion of Jews in Israel's population at the end of 1982 (83 percent of 4.1 million) was little changed from June 1948 (81 percent of 806,000). Even with Jewish immigration now low, this proportion is likely to be no lower than 76 percent in 2015, because Moslem fertility is now falling. But by 2015 the Jewish proportion could be only 50 percent in a "Greater Israel" if Israel annexes the Occupied Areas of the West Bank and Gaza Strip where 1.2 million Arabs now live. "Oriental" Jews from less developed North African and Asian countries, 15 percent of Israel's Jewish population in 1948, with their largescale immigration to the mid-1960s and initially higher fertility, outnumbered European-American Jews by 1970. This was an important factor in the 1977 shift of political dominance from the leftwing Labor parties, supported by the better-educated, socialist-leaning European-American Jews, to the rightwing Likud bloc, espousing economic policies based on more private initiative and Israel's historic rights to Judea and Samaria (the West Bank). Western-oriented Jews of European or American origin, although still the country's "establishment," comprised only 40 percent of Israel's population by 1981. By 2015, their share is likely to be down to 30 percent within Israel's present boundaries and would be only 22 percent of the population of a Greater Israel. First raised by 19th century Zionists in Europe who set off the drive for reestablishment of a Jewish national homeland in Palestine, the questions of whether or not Israel will be a Jewish state and remain a Western society will continue salient into the 21st century.

Editor: Jean van der Tak
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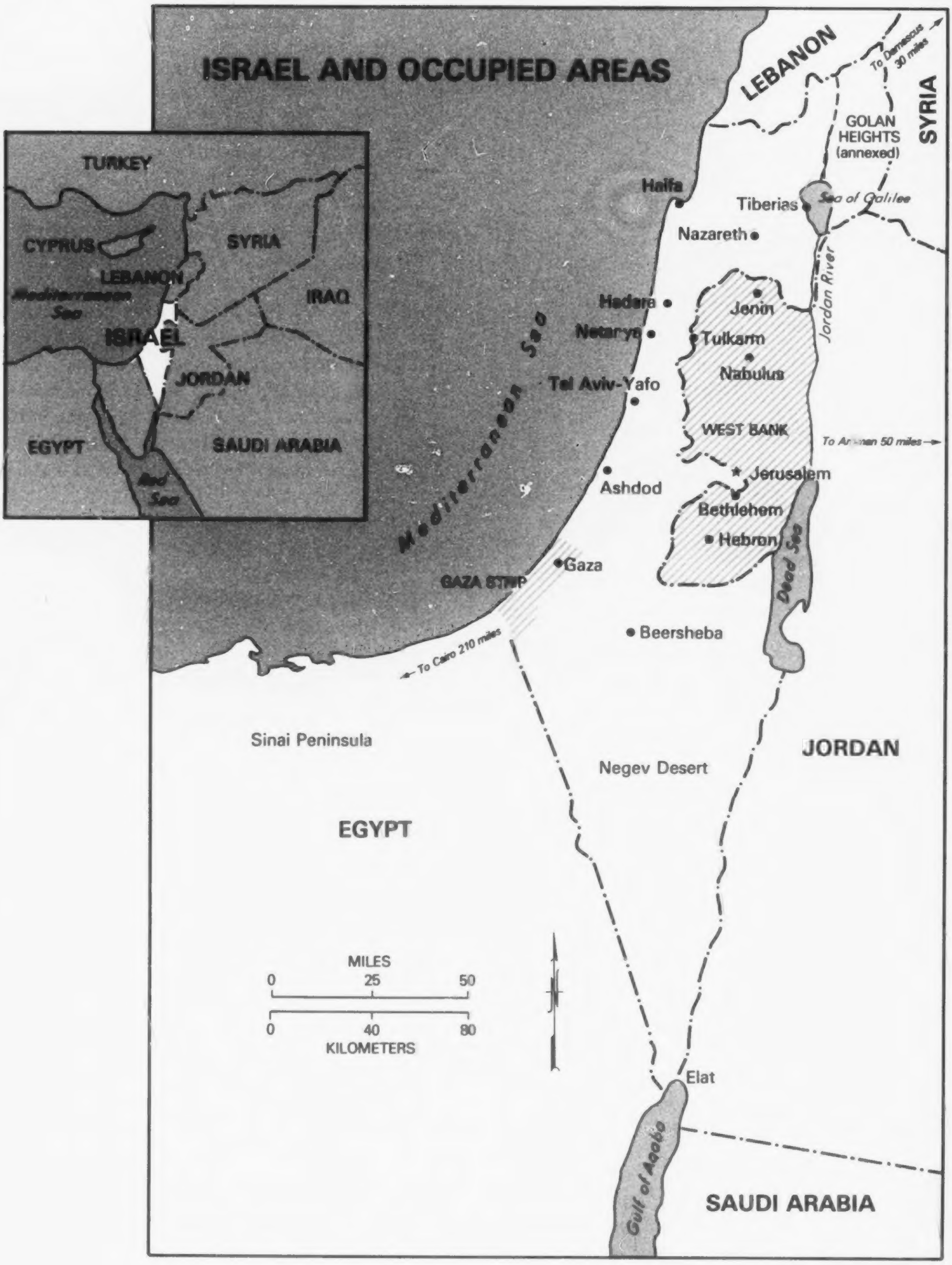

ISRAEL AND OCCUPIED AREAS

TURKEY
CYPRUS
SYRIA
LEBANON
Mediterranean Sea
IRAQ
ISRAEL
JORDAN
EGYPT
SAUDI ARABIA
Red Sea
LEBANON
To Damascus 30 miles
SYRIA
GOLAN HEIGHTS (annexed)
Haifa
Tiberias
Sea of Galilee
Nazareth
Jordan River
Hadera
Jenin
Netanya
Tulkarm
Nabulus
Tel Aviv-Yafo
Mediterranean Sea
WEST BANK
To Amman 50 miles
Ashdod
Jerusalem
Bethlehem
Hebron
Dead Sea
Gaza
GAZA STRIP
Beersheba
To Cairo 210 miles
Sinai Peninsula
Negev Desert
JORDAN
EGYPT
MILES
0
25
50
0
40
80
KILOMETERS
Elat
Gulf of Aqaba
SAUDI ARABIA

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Israel's Population: The Challenge of Pluralism

By **Dov Friedlander**
and
Calvin Goldscheider

The Hebrew University of Jerusalem
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Both authors have published extensively on a wide range of topics in demography and sociology. Fourteen of their joint and separate publications on population issues in Israel formed the basis for this Population Bulletin *and are listed in the Bibliography (page 39).*

Dr. Friedlander began preparation of this Bulletin *while he was at the Population Reference Bureau in 1982-83 as Andrew B. Mellon Visiting Scholar.*

Much of the hope for peace in the Middle East and, in turn, for peace in the world lies with the outcome of the Israel-Arab conflict. That conflict is part of broad social, economic and political changes which have characterized the region in this century. And these changes, in turn, have much to do with demographic changes, which have been particularly dramatic for Israel during its brief 36-year history.

Carved out of Palestine in fulfillment of the Zionist dream of a national homeland for the Jews, the state of Israel contained 650,000 Jews and 156,000 Arabs when the dust had settled following its founding in May 1948. Within three years, the Jewish population more than doubled as immigrants streamed in from Europe, Asia and North Africa in response to the new government's "mass immigration" policy. The homogeneous European Jewish population of British Mandate days was rapidly transformed into a social and cultural mosaic, and the repercussions are still being felt. The better-educated, socialist-leaning European Jews dominated economic and political life in the first 30 years of the new state's development. But "Oriental" Jews from less developed North African and Asian countries, with their largescale immigration to the mid-1960s and initially higher fertility, became the demographic majority of Israeli Jews by 1970. This was an important factor in the 1977 shift of parliamentary reins from the leftwing Labor Alignment party to Menachem Begin's rightwing Likud coalition government. With this came a shift in economic priorities and political policies. Although the fertility of Oriental Jews, at about three births per woman, has now dropped close to that of European Jews, they are likely to remain the majority as Israel's economic problems discourage a substantial resurgence of immigration from Western countries. Indeed, net immigration (immigration minus emigration) has been very low in the past several years.

Another prominent strand shaping Israel's demographic mosaic is the sharp fertility differential between Jews and Moslem Arabs. Heavy Jewish immigration since 1948 has balanced the high natural increase of Moslems, who comprise the majority of Israeli Arabs, so that the proportion of Jews in the country's population at the end of 1982 (83 percent of 4.1 million) was virtually the same as in 1948 (81 percent). Even if Jewish net immigration remains low, this proportion is not likely to be reduced much in the future because Moslem fertility has now begun to fall.

The picture is complicated by the issue of the West Bank and the Gaza Strip which Israel has occupied and administered since its Six Day War of 1967 with Jordan, Egypt and Syria. Some 1.2 million Arabs, mostly Moslem, now reside in those areas. If Israel eventually annexes the areas, as many now propose, the proportion of Jews in the population of "Greater Israel" could be as low as 50 percent by 2015.

With this complex interplay between demographic and sociopolitical processes, Israel can be viewed as a "demographic laboratory." American sociologist Bernard Berelson described it in 1978:

> "Israel is an intensified microcosm, speeded up, of current population issues and responses. Hardly anything is missing: The most active immigration policy in modern history, social layers of differential fertility and mortality, planned population distribution internally, extreme demographic differences vis-à-vis hostile neighbors, wide-ranging demograhic projections resting on the judgments of individual couples on the one hand and the decisions of international politics on the other, worrisome regional trends affecting security prospects, reproductive practices subject to strong religious and cultural proscriptions both Jewish and Arab, rational efforts at policy consideration and instrumentation, shortfall from policy goals."[1]

In this *Bulletin* we focus on the major features of Israel's current demographic laboratory, describing the trends which shaped the present population mosaic, and then outlining what the future consequences of current population patterns might be. All the statistics cited, unless otherwise noted, refer to Israel proper (excluding the West Bank and Gaza) and come from Israel's Central Bureau of Statistics. Data from the most recent census of May 1983 have not yet been released, but comprehensive, up-to-date statistics are available from the Bureau's sophisticated population registration system, supplemented by periodic surveys of families, education, labor and other topics.

Background

Geography

Israel is located in Southwest Asia, on the eastern wing of the Mediterranean. Its total land area is 21,501 square kilometers (8,302 square miles), about the size of the state of New Jersey. This includes the eastern sector of Jerusalem (controlled by Jordan after Israel was carved out of Palestine in 1948 but reunited with Jerusalem's western sector after the Six Day War of 1967) and the Golan Heights (part of Syria after 1948, occupied and administered by Israel after 1967, and annexed in December 1981). It excludes the Gaza Strip in the southwest and the West Bank (the Judea and Samaria of Palestine's ancient history), which became part of Egypt and Jordan, respectively, in 1948, but occupied and administered by Israel since the 1967 war (see map, page 2, and the chronology, page 6).

Bordered by Lebanon on the north, Syria and Jordan to the east, Egypt's Sinai Peninsula on the southwest, and the Gulf of Aqaba at its southernmost tip, Israel has a 115-mile Mediterranean coastline, but in places is only 15 miles wide. The densely populated coastal plain along the Mediterranean contains two of the country's three largest cities: Haifa, the leading port, handling 60 percent of the country's foreign trade, and Tel Aviv-Yafo. Residents of the metropolitan areas of these two cities, along with those living in Jerusalem, the capital, make up almost half of the nation's population. Close to half of Israel's land area is claimed by the arid Negev desert in the southern triangle of the country, much of which is inhabited by nomadic Bedouins who make up 10 percent of the nation's Arabs. Stretching north from Beersheeba, the Negev's major city, to the Galilean Hills is the Central Hills region, bordered on the east by the Dead Sea and the Jordan Valley. In this area and along the coast, the climate is Mediterranean, with a mild rainy season from October to April and hot, dry summers. Temperatures are considerably higher in the Negev desert and the Jordan Valley.

Centuries of overcultivation and overgrazing have depleted the natural vegetation of the region. But intensive cultivation on small farms and the collective *kibbutzim* and *moshavim* has revived agriculture north of Beersheeba and even in the Negev. Although agricultural products account for only 5.8 percent of the country's net domestic product and only 7 percent of the labor force now works in agriculture, Israel's citrus fruits, avocadoes and flowers, for example, are now prominent in supermarkets throughout Western Europe.

Government

Israel is a parliamentary democracy, governed by the one-house Knesset (parliament), whose 120 seats are divided proportionately among all political parties gaining at least 1 percent of the vote in elections held every four years or more often. The Knesset appoints the country's president for a five-year term, and he in turn selects as prime minister the leader of the party winning the most votes in an election and thus most likely to be able to form a cabinet and a viable coalition government from among the parties represented in the Knesset. Israel has some 30 political parties. Currently holding Knesset seats are the major rightwing Likud party, the leftwing Labor Alignment, the National Religious Party, and smaller parties, such as the extreme religious party, *Aguda Israel,* a nationalist secular party, *Tehiya,* a Communist party and an Arab party. (Arabic is the second official language of the country, along with Hebrew.) All the coalition governments of the first 30 years of statehood were led by the Labor party (or its successor, the Labor Alignment party), headed until 1963 by the nation's first prime minister, David Ben-Gurion. During the early days of statehood, the Knesset passed the Law of Return, stating that "every Jew has the right to come to this country" in accord with the policy of "ingathering of the exiles," laws instituting free compulsory primary education, compulsory military service (except for Arabs), and a wide variety of government-funded health and welfare benefits. The last two Labor Party prime ministers were Golda Meir and Yitchak Rubin, who served from 1969 to 1977. Since then, the Likud bloc, headed by Menachem Begin and, as of September 1983, by Yitzhak Shamir, has been in power.

The Likud takeover following the 1977 elections brought a major shift from socialism and a pragmatic approach to the territorial issues of the West Bank and Gaza to economic policies based on more private initiative and an ideological emphasis on historic rights to Judea and Samaria and the "Land of Israel." Long-term social and political changes were at the core of this shift, along with dissatisfaction with the costly legacy of the Yom Kippur War of 1973. Also of major importance was the growing preponderance of Jews of Asian or African origin and their dissatisfaction with their continuing social and economic lag behind the "ruling" European-American Jews.

A Chronology: 1882-1983

1882-1903 First wave of modern immigration to Palestine *(Aliya);* 25,000 Eastern European immigrants arrive.

1897 First Zionist Congress in Basel, Switzerland, organized by Theodore Herzl, formally launches drive for Jewish return to the Land of Israel.

1904-14 Second *Aliya;* 40,000-55,000 Jewish immigrants arrive from Eastern Europe and Russia.

1917 Great Britain, in Balfour Declaration, supports creation of "National Home" for Jews in Palestine.

1919-23 Third *Aliya;* 35,000 Jews arrive, mostly from Poland and Russia.

1923 League of Nations establishes British Mandate over Palestine and directs Britain to encourage "close settlement of Jews upon the land."

1924-28 Fourth *Aliya;* 67,000 immigrants arrive, half of them middle-class, urban Poles.

1929-39 Fifth *Aliya;* 250,000 Jews, one-quarter of them refugees from Nazi Germany, arrive in Palestine.

1939 Great Britain issues White Paper on Palestine, curbing Jewish immigration and land purchase.

1945-48 Almost 75,000 immigrants arrive, most illegally.

1947 United Nations proposes partition of Palestine into Arab states (Judea and Samaria, or West Bank, and eastern Jerusalem to go to Jordan; Golan Heights to Syria; Gaza Strip to Egypt) and a Jewish state (the remainder).

1948 State of Israel comes into existence (May 14). Total Jewish population is 650,000. War of Independence begins as Egypt, Jordan, Lebanon and Syria invade Israel.

1948-51 Mass immigration; 690,000 Jews arrive from Europe, Asia and North Africa.

1949 First Knesset convenes with David Ben-Gurion as Prime Minister. Armistice signed with neighboring Arab countries. Jerusalem divided, western half to Israel, eastern half to Jordan.

1950 Knesset passes Law of Return, granting all Jews the right to immigrate to Israel.

1956 Suez Crisis: Egypt nationalizes Suez Canal, closing it to Israeli shipping. Israel invades Gaza Strip and Sinai, then withdraws under U.S. pressure.

1967 Six Day War (June 6-11): Israel launches pre-emptive strike against Egypt, Syria and Jordan, gaining control of the Sinai Peninsula, Gaza Strip, Golan Heights and West Bank, including Jerusalem. Jerusalem reunited.

1968 First Israeli settlement in occupied West Bank.

1973 Yom Kippur War: Syria and Egypt attack Israeli forces on Golan Heights and along Suez Canal. After early reversals, Israel closes in on Damascus and crosses Suez Canal.

1974 Disengagement agreements between Israel and Egypt and Syria after Secretary of State Henry Kissinger's "shuttle diplomacy."

1977 Likud coalition takes over Knesset, under Prime Minister Menachem Begin, ending Labor Party dominance. Egyptian President Anwar Sadat visits Jerusalem.

1978 Israel invades southern Lebanon to root out Palestinian guerillas; U.N. buffer zone created. At Camp David with President Jimmy Carter (Sept. 5-17), President Anwar Sadat and Prime Minister Begin agree to conclude peace treaty within three months.

1979 Knesset approves Israel-Egypt peace treaty.

1980 Israel begins phased withdrawal from Sinai; invades Lebanon for second time, provoked by renewed terrorist attacks.

1981 Knesset votes annexation of Golan Heights.

1982 Israel again invades Lebanon to rout Palestine Liberation Organization terrorists and Syrians.

1983 Menachem Begin resigns (Sept. 15), succeeded by Yitzhak Shamir as Prime Minister. Israeli troops mired in southern third of Lebanon. Number of Jewish settlers in occupied West Bank and Gaza Strip reaches 30,000.

Source: Based in part on "A Chronology, 1882-1982," in "The Future of Israel," *The Wilson Quarterly*, Vol. 7, No. 1 (1983) pp. 52-53. Reproduced with permission.

With their higher fertility, "Oriental" Jews from Asia and North Africa now outnumber the European Jews who dominated at the state's founding, especially in the voting-age population. Jewish immigrants from Asian and African countries and their Israeli-born children are the major supporters of the Herut party, the senior partner of the Likud bloc.

Occupation and the economy

Being poor in fertile soil, water, minerals and oil, Israel's most important national assets are its human resources. Changes in occupation reflect the country's shift from the early emphasis on agriculture to a diversified industrial economy and now toward services, research and "high technology." Between 1965 and 1982, the proportion of employed men working in agriculture dropped from 13 to 7 percent, other laborers declined from 47 to 42 percent of the male work force, and the proportion in scientific, academic and professional occupations doubled from 9 to 18 percent (see Table 1). Women made up 37 percent of the labor force in 1982.

The country's various ethnic and religious groups have not shared equally in this occupational shift. Lowest in occupational and general socioeconomic status is the Arab population, with relatively high proportions working in agriculture, construction and public works. Ranking somewhat higher is the Jewish Oriental group. Highest on the ladder is the Jewish population of European-American origin (immigrants and their descendants). In 1982, just 12 percent of Arab men in the labor force were employed in the most prestigious white-collar jobs and 12 to 14 percent of Jewish men of Afro-Asian origin, compared to 34 to 43 percent of European-American Jewish men (see Table 3, page 11). This three-tiered stratification is at the heart of Israel's population mosaic and is intimately related to demographic trends.

Israel produces a variety of goods for world and domestic markets. Highly technological and industrialized, the economy grew by an average 10 percent a year—a near-world record—in the first 25 years of statehood. Since the Yom Kippur War, with deliberate government policies to curb growth and increasingly heavy military expenditures, the growth rate has slowed to about 3 percent a year, on average, in line with other developed nations.

Table 1. Employed Men, by Occupation: Israel, 1965-1982

Occupation	1965	1973	1978	1982
Total employed men (in thousands)	635.4	746.8	789.8	823.8
Percent	100.0	100.0	100.0	100.0
Scientific, academic, professional	9.3	13.6	16.2	17.8
Administrators, managers, clerical	14.8	16.0	17.2	17.3
Sales and service workers	15.4	16.3	16.2	16.4
Agricultural workers	13.2	7.9	7.4	6.8
Skilled and unskilled laborers	47.3	46.2	43.0	41.6

Source: Central Bureau of Statistics, *Statistical Abstract of Israel*, various issues.

Always heavily dependent on imports, Israel before 1973 was able to finance the excess of imports over exports with grants and loans from abroad, mainly from the United States. (Military and economic aid from the United States to Israel since its formation now totals over $25 billion.) Since then, escalating defense expenditures and increased costs of imports (especially oil) have swollen the country's foreign debt to $21.5 billion, which represents the highest per capita debt in the world. This has accelerated inflation, which by early 1984 was running at over 200 percent computed on an annual basis. Also contributing to inflation are continuing heavy government outlays on transportation, communications, education and generous social programs, along with high levels of private consumption, prompted in part by indexation—automatic adjustment of wages, savings, social security benefits and interest payments to the rate of inflation. Despite inflation, however, real incomes have typically risen in recent years. The average salary of wage earners in 1982 was about 33 percent higher in real terms than in 1975. (Israel's per capita gross national product was $5,528 in 1982; that of the United States, $13,240.) And despite its economic problems, Israel, unlike other industrialized countries, has maintained full employment; unemployment was only 3 percent in the 1970s, although it has now risen somewhat higher. Full employment has prevented major social conflict among the country's diverse ethnic groups and is an important element in maintaining internal cohesion in the face of security threats.

Education

Educational attainment has increased steadily for all groups, but significant differences remain. Similar to the three-tiered occupational ranking, Jews of European-American origin have the highest levels of education, followed at some distance by Oriental Jews and then Arabs, although Christians among the Arab population attain higher educational levels than Moslems. For example, data for 1982 (standardized by age) show proportions of men and women with 13 or more years of education at 39 percent for Israeli-born Jews of European origin and 34 percent for those born in Europe or America, but only 12 percent for Israeli-born Oriental Jews and 10 percent for those born in Asia or Africa. Although education is compulsory between the ages of 5 and 15 and free through high school, Oriental Jews, because of their poorer preparation, are less likely than those of European background to pass the admission tests to academic high schools, which are the only avenue to university, and more likely to be enrolled in the country's large system of vocational and agricultural schools.

Population

At the end of 1982, Israel's total population numbered 4.1 million (4,063,600), of whom 83 percent (3,373,200) were Jews and 690,400 were non-Jews, mostly Arabs (see Table 2). The Jewish population is made up predominantly of immigrants who arrived after the establishment of the state and their Israeli-born descendants. In 1982, 23 percent of the Jewish population had been born in Europe or America; 19 percent in Asian or African countries; and 58 percent were native born. Among the native-born, or *sabras,* 28 percent were born of European or American parents; 45 percent of African or Asian parents; and 27 percent were third generation. The non-Jewish population is divided into three religious groups; 77 percent in 1982 were Moslems (almost entirely of the Sunni branch of Islam), 14 percent were Christian Arabs (mainly Greek Orthodox, Greek Catholics and Roman Catholics), and the remaining 9 percent were virtually all Druze (an Arab group whose religion is an outgrowth of Mohammedanism and dates from the beginning of the 11th century). The Arab population in the Israeli-administered West Bank and Gaza Strip numbered 1,223,800 at the end of 1982.

Table 2. Population of Israel, by Religion, Ethnic Origin and Birth Place: 1948, 1961, 1972, 1982

(Numbers in thousands)

Population group	1948[a]	1961[b]	1972[b]	1982[a]
Total country	881.7	2,179.4	3,147.7	4,063.6
		Jewish population		
Total	716.7	1,932.3	2,686.7	3,373.2
European-American origin				
Total	*591.4*[c]	1,007.1	1,187.3	1,343.6
Born in Europe or America	393.0	672.1	749.7	785.3
Second generation, born in Israel	*198.4*	335.0	437.6	558.3
African or Asian origin (Oriental)				
Total	*105.0*	818.3	1,273.6	1,496.7
Born in Africa or Asia	70.0	529.8	665.0	628.1
Second generation, born in Israel	*35.0*	288.5	608.6	868.6
European-American and Afro-Asian third generation, born in Israel	20.3	106.9	225.8	532.9
		Non-Jewish population		
Total	165.0	247.1	461.0	690.4
Moslem Arabs	—	170.8	352.0	530.8
Christian Arabs	—	50.5	72.1	94.0
Druze and others	—	25.8	36.9	65.6

Source: Central Bureau of Statistics, *Statistical Abstract of Israel*, various issues.

[a] 1948 and 1982 figures are as of year end.
[b] 1961 and 1972 figures are as of mid-year.
[c] Italicized figures are estimates.

Note: First-generation Jews are those born outside Israel; second generation are those born in Israel of foreign-born parents; third generation are those born in Israel of Israeli-born parents.

Some 30,000 Jews now inhabit settlements in these areas.

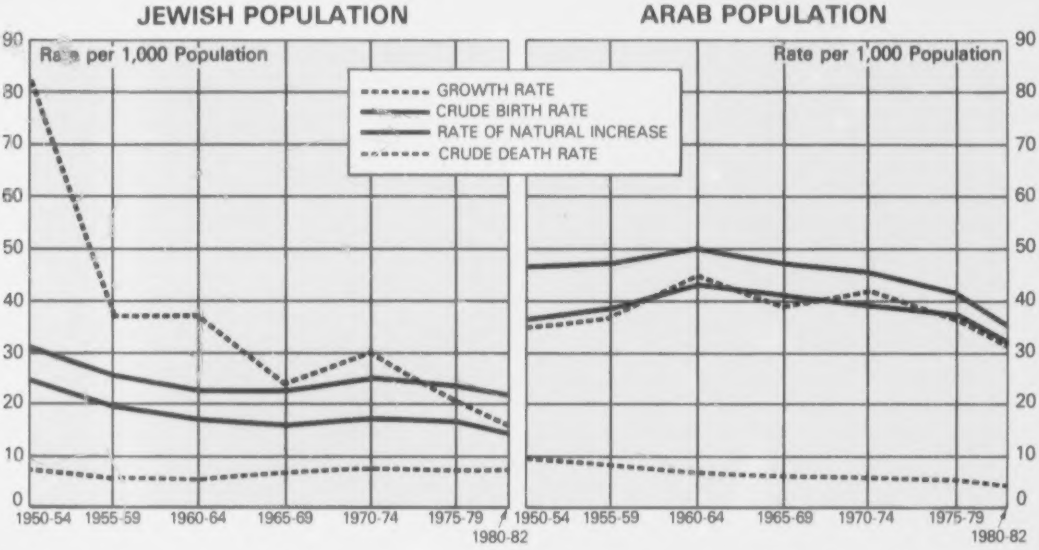
Israel's population growth rate in 1982 stood at 1.8 percent, and was almost entirely due to "natural increase" (the excess of births over deaths). The birth rate was 24.0 per 1,000 population and the death rate, 6.9 per 1,000. (The U.S. birth and death rates in 1982 were 16.0 and 8.5, respectively.) This is a far cry from the earliest years in the nation's history when waves of Jewish immigration pushed growth in some years over 8 percent (see Figure 1, page 10).

Overall life expectancy at birth was nearly 74 years in 1982; 75 years for the Jewish population and 72 for Arabs (Table 3, page 11). Infant mortality is low overall at 13.9 infant deaths under age one per 1,000 live births in 1982, but the rate for Moslems (22.1) is nearly double that of the Jewish population (11.6), which ranks with that of the United States (11.3 in 1982).

Marriage

Marriage is virtually universal among both Jews and Arabs in Israel, reflecting

Figure 1. Vital Rates for Jewish and Arab Populations of Israel, Annual Averages: 1950-1982



Source: U.S. Bureau of the Census, Center for International Research, based on official data from Central Bureau of Statistics, Israel.

the enormous value placed on marriage and the family in both cultures. Among Jews, recent marriage rates have dropped from 9.7 per 1,000 population in 1975 to 7.7 in 1980 and 7.1 per 1,000 in 1982. (The U.S. marriage rate in 1982 was 10.6 per 1,000 total population.) The decline reflects some delayed marriage, due in part to a "marriage squeeze" since the late 1960s—a shortage of men aged 25-29 compared to women aged 20-24 (the usual ages for marriage) resulting from changes in annual numbers of births some 25 years earlier. Israel's economic problems and high housing costs, together with some liberalization in norms regarding nonmarital cohabitation, may also have affected the timing of marriage. Nevertheless, the overwhelming pattern remains high rates of marriage and family formation, with little variation among ethnic groups.

Among Jews, both Afro-Asians and European-Americans now marry at about the same ages; a median of age 25 for men and age 22 for women (Table 3). This contrasts with patterns 15 to 20 years ago when Afro-Asians married an average two years earlier than Jews of European-American origin. Both Jewish groups marry somewhat later than Arabs, due for the most part to their greater educational attainment.

Very few marriages occur between Jews and Arabs in Israel, but marriage between Afro-Asian and European-American Jews has increased steadily since 1955. By 1980-82, the rate of such "ethnic outmarriage" seemed to have leveled off at about 20 percent of annual marriages among Jews. Strong pressures to marry despite smaller pools of eligible ethnic partners account for part of this increase, but it also signals some easing of ethnic constraints and increased integration. Ethnic outmarriage is apparently more likely for better-educated Afro-Asian Jews and less-educated European-American Jews.

Fertility

In contrast to marriage patterns, differentials in fertility are still evident, though much narrowed after being at a peak

Table 3. Socio-Demographic Characteristics of Major Subpopulations: Israel, 1982

Population group	Median age at first marriage[a]		Total fertility rate[b] (births per woman)	Life expectancy at birth (years)	Percent employed males in high white-collar jobs[c]	Percent women aged 25-34 in labor force
	Male	Female				
Total Jews	24.7	21.9	2.79	74.5	25.7	60
Born in Europe-America	25.5	22.5	2.81	74.0	33.7	64
Born in Israel, European-American origin	24.3	21.6	2.66	74.2	43.0	68
Born in Afro-Asian countries	25.9	22.7	3.06	73.7	13.5	49
Born in Israel, Afro-Asian origin	24.3	21.6	2.88	74.2	12.4	57
Total Arabs	23.4	19.4	5.21	72.0	11.9	14
Moslems	23.6	19.4	5.53	—	—	—
Christians	26.8	21.4	2.34	—	—	—

Source: Central Bureau of Statistics data or authors' estimates based on official CBS data.

[a] Data for 1979. Figures are estimates and should be interpreted with caution.

[b] The total fertility rate of a given year indicates the average number of births per woman in a population if all women were to live through their childbearing years (ages 15-49) bearing children at the same rates as women of those ages actually did in that year.

[c] Includes scientific, professional, administrative and managerial occupations.

among Jews in the 1950s and between Jews and Arabs in the mid-1960s. The major differences are between the lower fertility of Jews and much higher fertility of Arabs as a group, and, within these groups, between the slightly lower fertility of European-American Jews compared to Oriental Jews, and the much lower fertility of Christian Arabs compared to Moslems.

In 1982, the total fertility rate of Moslem Arabs (5.53 births per woman) was double that of Jewish women as a whole (2.79), but this was a marked change from 1965 when the Moslem fertility rate was nearly triple that of Jewish women—9.87 versus 3.47 (see Table 5, page 24, and Figure 4, page 25). Ethnic fertility differentials among Jewish groups had almost disappeared by 1982. For immigrants born out of the country, the rates were 3.06 births per woman for Afro-Asian women versus 2.81 for European-American women, and for native-born Israelis, the rates were 2.88 for those of Oriental origin versus 2.66 for the European-Americans (see Table 3). Christian Arab women had the lowest fertility of all ethnic-religious groups in 1982—2.34 births per woman. (The total fertility rate for U.S. women in 1982 was 1.8; 1.7 for white women and 2.2 for black women.) Fertility differentials, along with Jewish immigration, have shaped Israel's distinctive demographic history to date and in turn have played a large role in the country's political and social development. Although they are now narrowing, they will continue to have an impact for decades to come.

Immigration

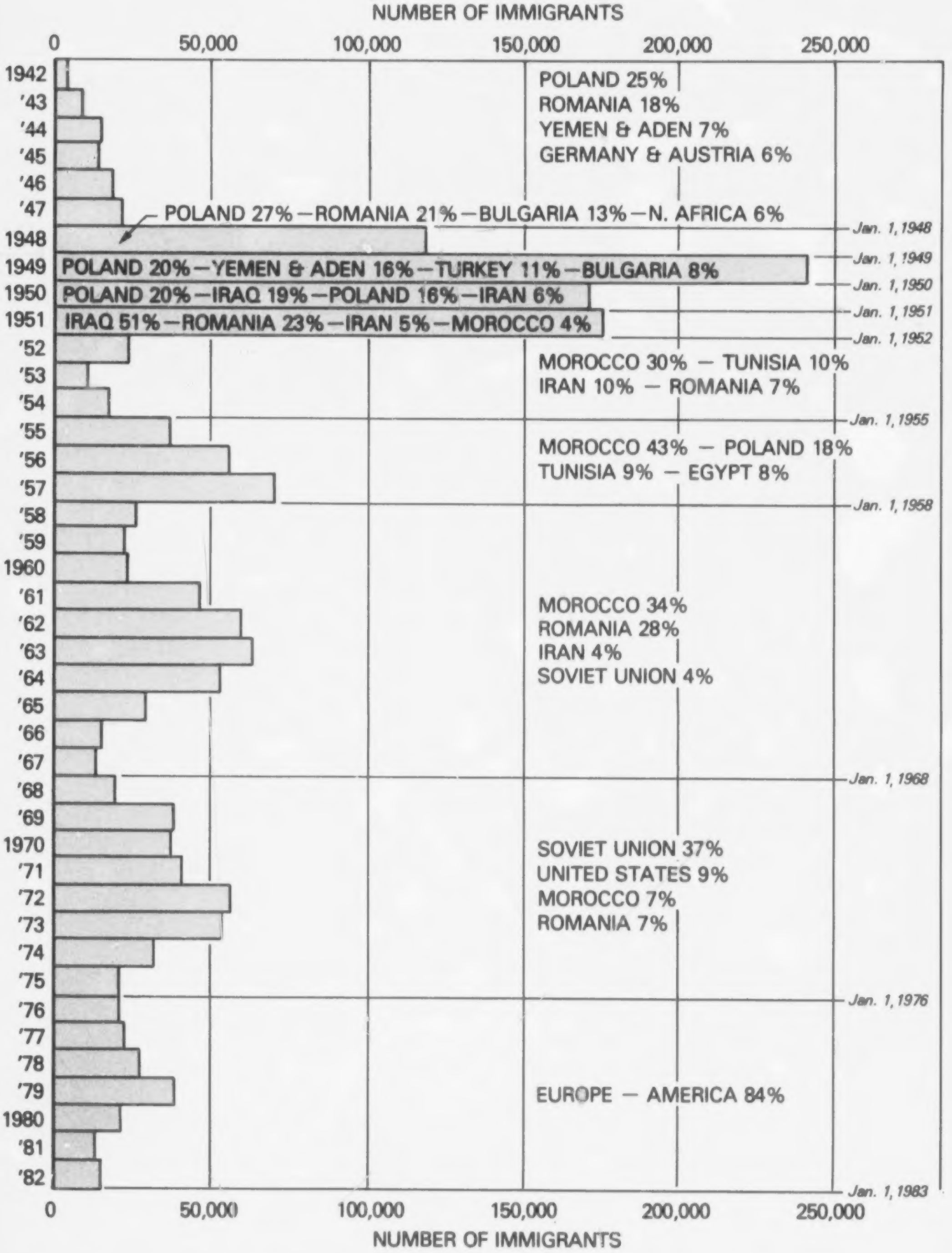
Until recently, immigration has been the most important source of population growth for the Jewish sector, particularly in the earlier years of statehood. As seen in Figure 1, from 1950 to the mid-1960s and again in the mid-1970s, the overall growth rate for Israel's Jewish population far exceeded its rate of natural increase (the excess of the birth rate over the death rate, leaving out of account the contribution of net migration to population growth—or decline). Though natural increase has been much higher for the Arab population, Jewish immigration has maintained the balance in the overall growth rates for the two groups, so that the proportion of Jews in Israel's total population at the end of 1982 (83 percent) was virtually the same as at the end of 1948 (81 percent), as is evident from the population figures in Table 2 (page 9). But immigration can no longer be counted on to keep up Jewish growth rates. Figure 2 shows that Jewish immigration has declined dramatically since the early 1970s. In 1982, fewer than 14,000 immigrants arrived, compared to 56,000 a decade earlier in 1972. Further, emigration has increased in recent years. Although it is impossible to calculate the number of emigrants, the evidence indicates that immigration barely exceeded emigration between 1980 and 1982.

The decline in immigration partly reflects the waning of Israel's attraction for Jews living elsewhere, as economic conditions and political and security problems have become more difficult since the Yom Kippur War of 1973. Emigration has increased for the same reasons. Indeed, despite the importance of Zionism as an ideological factor in migration to and from Israel, socioeconomic and political factors have largely determined the pace and direction of migration in recent years. Conditions that prompt emigration may change in the future, but immigration is unlikely ever to resume on a large scale. This is because Jewish communities in African and Asian countries have been depleted by earlier migration to Israel and other countries and Jews in most other countries have not been under strong pressure to emigrate in recent years. Only the Soviet Union at present has a large remaining pool of Jews eager to emigrate and very few are now being allowed to leave. Many of these are unlikely to migrate to Israel, as has been true in recent years of Jews who have felt political or economic pressures to move—from Argentina and South Africa, for example. Even among Jews from Western countries who have recently chosen to move to Israel, it is estimated that about one-third return to their country of origin within three years.

Population age structure

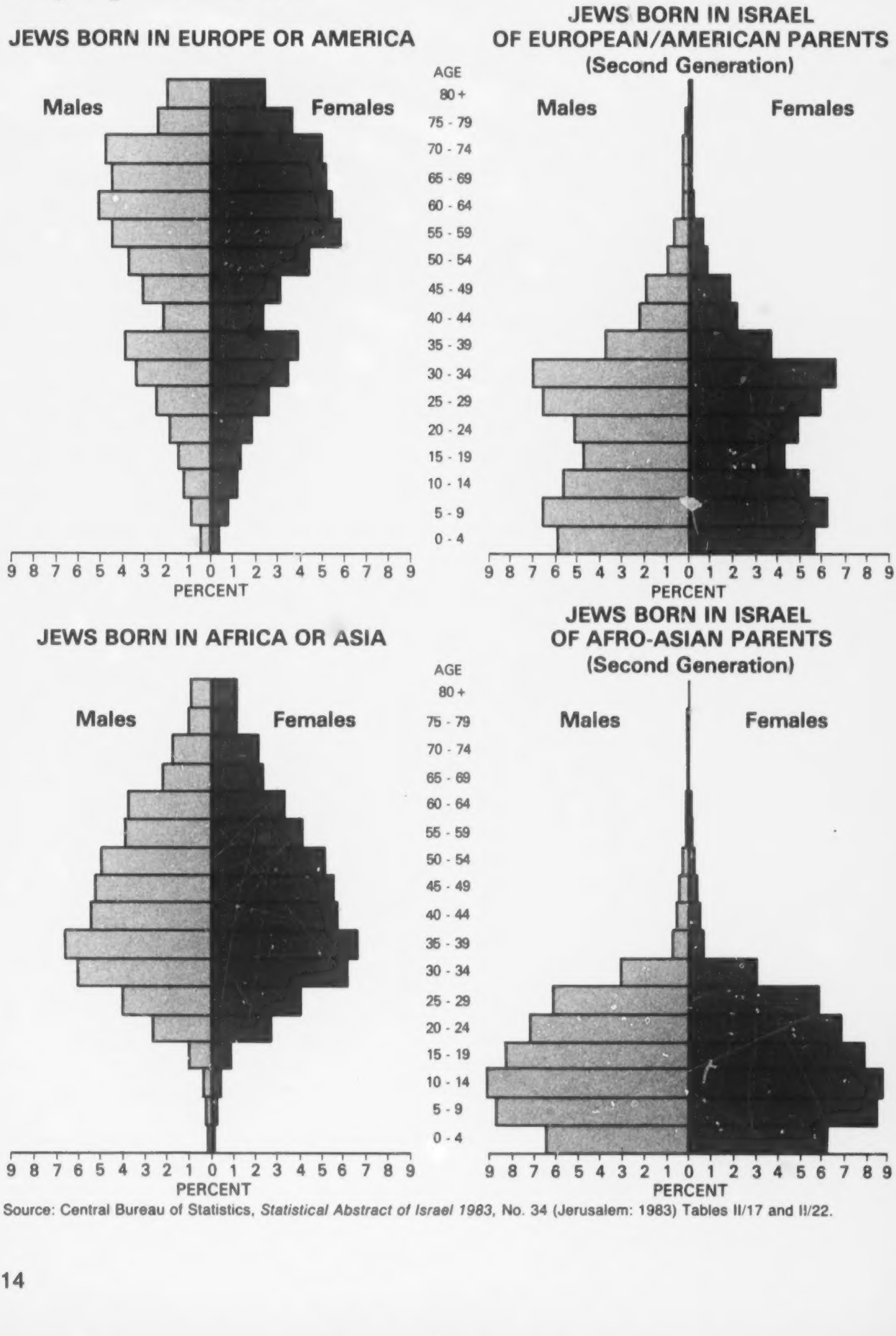
The timing and composition of immigration flows and differential fertility have resulted in very different age structures of the various subgroups in Israel, as seen in the population age pyramids in Figure 3 (page 14). The broad bases of the pyramids for the two Jewish Israeli-born groups, and especially that of Moslems, illustrate the impact of relatively high fertility. They all have young age structures, with large proportions of children under age 15, although the recent decline in fertility is particularly evident for the Israeli-born of Afro-Asian origin in the sharp pinching in of their pyramid at ages 0-4. By contrast, the two first-generation Jewish immigrant groups are now predominantly middle-aged or older. In the past, when the volume of immigration to Israel was very large relative to the population already in the country, the age characteristics and fertility levels of immigrants dominated the evolution of Israel's population structure. Now the period of such mass immigration is over and unlikely to be repeated. Hence, like most other countries, Israel's overall population age structure is increasingly shaped almost entirely by fertility patterns, although it might be affected in the future by declining mortality rates at the older ages. Already the relatively broad-based pyramid for the total population in 1982 reflects the increasing weight of Israeli-born *sabras;* in 1982, this youthful population made up 58 percent of the Jewish population. The median age for Israel's total population in 1982 was a relatively youthful 24.4 years. (The U.S. population median age is currently 31.) With their high fertility, Moslems—who make up 13 percent of the total population—have an extremely low median age of just 15.

Figure 2. Annual Immigration to Israel and Variations in Origin: 1942-1982

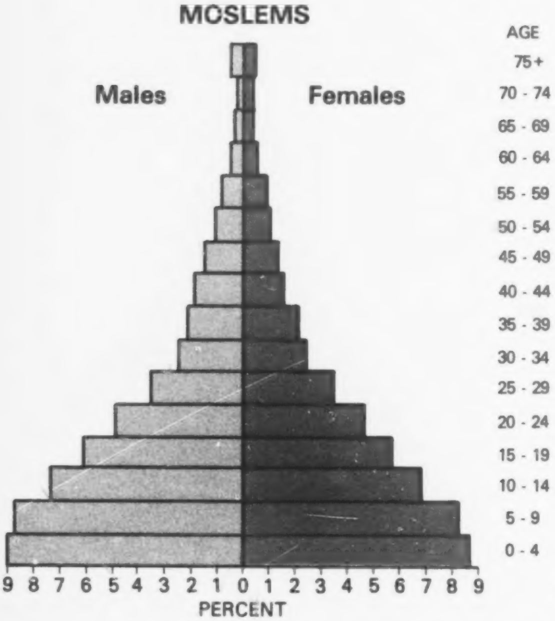


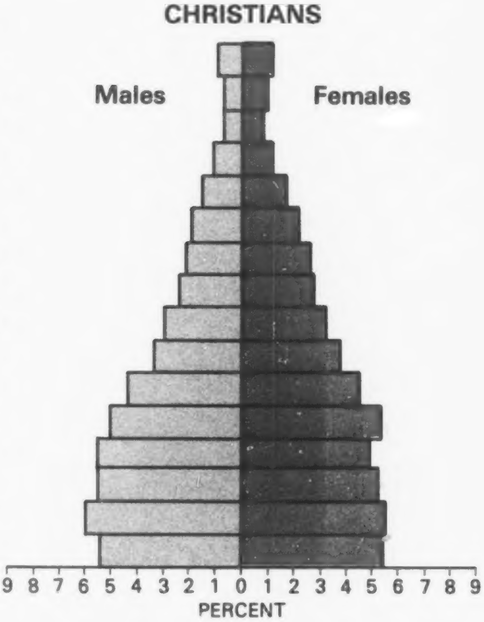
Source: Central Bureau of Statistics, *Statistical Abstract of Israel*, various issues.

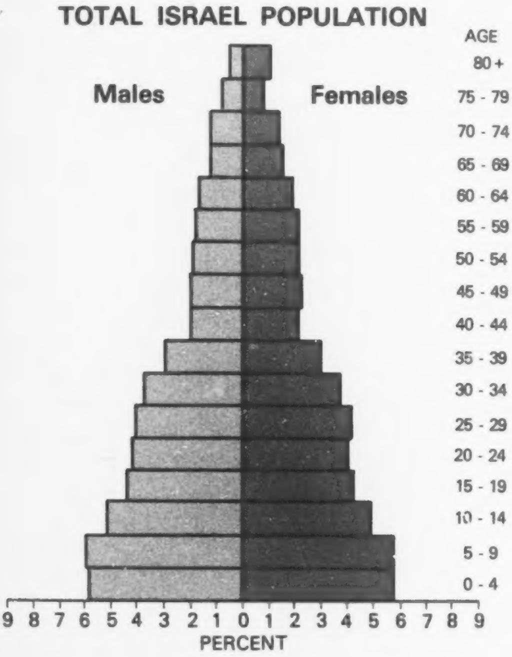
Figure 3. Population Age Pyramids of Total Population and Subgroups: Israel, 1982



Source: Central Bureau of Statistics, *Statistical Abstract of Israel 1983*, No. 34 (Jerusalem: 1983) Tables II/17 and II/22.


MOSLEMS


CHRISTIANS


TOTAL ISRAEL POPULATION

Population policies

Migration to Israel has for generations been rooted in Jewish religious ideology and, more recently, in secular nationalism, or Zionism. Born in the latter 19th century among avant-garde, secular, urban Jewish thinkers in Europe, Zionism stressed, among other issues, the return of Jews to their historical homeland. Thus, immigration was already a focus of population concern in Palestine before the foundation of the state of Israel. Until World War I, however, only relatively few Jews settled in Palestine, then a part of the decaying Ottoman Empire (see chronology, page 6). But in the spirit of Zionism, the Jewish community in Palestine and its leaders increasingly adopted policies to step up the flow of immigration in order to increase the Jewish population, both in absolute size and relative to the Arab population. From 1919 to 1948, immigration into Palestine was controlled by the British government, who had stated in the Balfour Declaration of 1917 that "His Majesty's Government views with favor the establishment in Palestine of a national home for the Jewish people." Large numbers of migrants were allowed to enter until growing tensions between Jewish and Arab residents prompted Britain to impose severe restrictions in the late 1930s. Immediately after the war, tens of thousands of Jewish refugees from Europe sought to enter Palestine, whether or not legally, and the right to immigrate became a symbol in the struggle toward national independence. Immigration was also the prime policy issue (after defense) in the early days of statehood, as Ben-Gurion was committed to increasing Jewish numbers rapidly, both for ideological reasons and to galvanize economic development and bolster the country's security.

Conflicting political interests of Jewish and Arab communities in Palestine, restrictions imposed on Jewish immigration by the British, and news of the wartime fate of European Jewry were three important elements in the concern over perceived low and declining Jewish birth rates before the foundation of the state of Israel. Concern over "low" birth rates again intensified as immigration waned following the mass immigration of the early years of statehood. Thus immigration and, to a lesser degree, fertility were important demographic policy issues both before and after Israel's establishment in 1948.

One of the first laws passed by the Knesset, in 1950, was the Law of Return, granting every Jewish person, irrespective of origin, the right to immigrate to Israel and to settle there with the assistance of the state. This policy has encouraged and enabled hundreds of thousands of Jewish people from some 70 countries to migrate to Israel. By contrast, there has always been much less consensus over the issue of "low" Jewish fertility. Pressures for action toward the establishment of a pronatalist policy came mainly from rightwing political parties, and especially from the religious parties, which have always had considerable power in the country's government and administrative machinery. Thus, in 1962, Prime Minister Ben-Gurion appointed a Population Committee to study and make recommendations for dealing with fertility issues.

The Population Committee's report, submitted in April 1966, recommended that a special government body be established to deal with the problem of low Jewish fertility and to promote the welfare of large families. Among other recommendations, it suggested that working conditions be arranged for married women so that they could both continue to work and have larger families and that loans be made available to "growing" families to finance larger apartments. It also recommended that abortion be curbed in order to increase the birth rate.

A Demographic Center was duly established in 1968 as an administrative unit within the Prime Minister's office (and subsequently moved to the Ministry of Labor and Welfare). However, the Demographic Center has so far taken no action of demographic consequence. For Israel to offer incentives large enough to prompt Jewish women to have more children would take an outlay far beyond the means of a country burdened with the highest per capita defense expenditures in the world. Further, no country has so far succeeded in an attempt to achieve a sustained fertility increase, even those with more resources than Israel to invest in such an effort. This explains why deliberate pronatalist incentives have not so far been instituted and are unlikely to be in the future. (As part of its social welfare policies, however, the state does provide free medical services for women giving birth, a three-month postnatal income allowance for working mothers, and child allowances, instituted in 1959, apparently generous enough to serve as one inducement for large families among low-income Moslems. See page 27.) Another consideration is that a policy designed to affect only a segment of the population, Jews, is difficult to implement within a democratic framework.

The Population Committee's policy recommendations regarding abortion and family planning in general also had little impact, but a description of Israel's fertility trends obviously calls for a sketch of the situation in both areas.

Abortion

At the time of the committee's report, Israel actually had a law prohibiting abortion except in order "to preserve the women's health." But in practice the law had not been enforced after 1952 and violators were prosecuted only in rare cases; for example, if the abortion resulted in the death of the women. In 1977, a more liberalized law was passed, permitting abortion in an approved medical institute for a variety of reasons, including social or economic hardship that would ensue from the birth. The abortion request had to be approved by a committee of two medical practitioners and a social worker. In response to rightwing political pressure, the socioeconomic clause was removed from the law just two years later, in 1979. It is not yet clear what effect this re-restriction has had on abortion patterns. Estimates in the early 1980s put the current number of legal abortions at about 15,000 per year, comprising 60 percent of estimated total abortions. The annual ratio of legal abortions to live births is approximately 15 per 100 and the ratio of total abortions to births is about 25 per 100. (The estimated ratio of legal abortions to live births in the United States in 1980, the latest year for which data are available, was 43 per 100.[2])

No recent estimates are available on abortions by ethnic or religious group. However, some clues come from a national survey conducted in 1975 when most abortions were technically illegal, but widely available from private physicians.[3] This indicated that 28 percent of married Jewish women under age 55 had had at least one induced abortion, rising to 36 percent among women married for at least 20 years. For native-born Israeli women the proportion was even higher—49 percent—with small differences between those of European or Afro-Asian origin. The figure for Jewish married women born in Africa or Asia was 28 percent, and for the European-born, it was 38 percent.

Embassy of Israel

A family celebrates Hanukkah. Perceived "low" Jewish fertility has long been a policy concern in Israel.

Contraception

In a country where medical care and services have been public and socialized for decades, family planning services are conspicuously absent. Very few of the public health clinics which cover the overwhelming majority of families provide such services, and then only on a small scale and usually at the initiative of local physicians. Modern contraceptives are available, but their use requires consultation and regular followups and these are generally available only from private clinics and physicians.

Government and medical circles are ambivalent about family planning, torn between concern to increase Jewish fertility, on the one hand, and concern over the social welfare costs of large families on the other. This translates into pronouncements about the need for public family planning services but no action to provide them. Contraception and birth control are generally regarded as private matters.

The most recent available data on contraceptive use also come from the 1975 survey of Jewish married women under age 55. This revealed that overall only 30 percent used the pill or an IUD and an additional 17 percent used other mechanical contraceptive methods. One-third of the women reported using only natural methods, withdrawal or rhythm. This is undoubtedly one explanation for the relatively high levels of reported abortions. The survey also found, however, that contraceptive practice and use of more efficient methods were higher among younger women and Israeli-born Jewish women. Among women married in the ten years before the survey, 1965-74, 58 percent of those planning their families used the pill or the IUD. For women married from 1955 to 1964, the figure was 44 percent, and for those married in 1945-54, it was 28 percent.

Israel's Current Socio-Ethnic Structure

Three major dimensions are used to identify the components of Israel's population mosaic: ethnicity, generation in Israel, and religion. The Jewish group is identified by ethnic origin—European-American or Afro-Asian—and, within these groups, by generation: first generation born abroad and second generation born in Israel. There is another group of third and subsequent generations of Jews born in Israel whose parents were also Israeli-born (about 9 percent of the Jewish population) but the ethnic origin of this group is not distinguished in official statistics. The classification of the population by religion distinguishes Jews from Arabs, and Moslems, Christians and Druze among Arabs, most of whom were born in what is now Israel. Half a million Arab natives of this area fled when Israel was formed in 1948, most to the formerly Palestinian regions of the West Bank and Gaza Strip, administered by Israel since 1967, where there are now over one million Arabs. (Unofficially, distinctions can be made within the Jewish population by religiosity: about 15 percent may be defined as religiously observant; 35 percent as secular; and the majority as intermediate. Oriental Jews are more likely to be traditional in religious practices and European Jews are more secular. Secularization and polarization between the religious and the secular have increased over the decades.[4])

European-American Jews

First-generation Jewish immigrants born in Europe or America consist of Eastern Europeans, some of them pioneers who immigrated during the 1920s or earlier, migrants from Germany and Austria who arrived during the 1930s after the rise of Naziism, wartime survivors who flooded in from refugee camps all over Europe after World II (mostly illegally until British rule was ended in May 1948), and immigrants from Communist countries arriving since the early 1950s, particularly Soviet Jews who came during the 1970s, plus a relatively small number of immigrants from Latin America, South Africa, and the United States.

Age at marriage among these first-generation immigrants is slightly higher than the national average (26 for men and 23 for women in 1979); fertility is moderate at 2.8 births per woman in 1982; and life expectancy is 74 years (see Table 3, page 11). This is now an aging group (Figure 3, page 14) and rapidly declining in importance. But this represents the group which started the modern resettlement of Palestine, fanned the flames of Zionist nationalism, developed the country economically, and bolstered the political strength of the Jewish community which led eventually to the establishment of the state of Israel. Until recently, also, this group was the country's undisputed "establishment," controlling both political power and economic resources.

Israeli-born European-American Jews of the second generation are a relatively young group (Figure 3), with fertility slightly below that of the parent generation (a total fertility rate of 2.7 births per woman in 1982), and high life expectancy (Table 3). Educational levels are high and members of this group now hold the more important posts in Israel's industry, economy, civil service and army, as well as in the scientific community. Women's labor force participation is highest among this group; 68 percent of women aged 25-34 were working in 1982, as seen in Table 3.

Oriental Jews

Almost all Afro-Asian Jews of the first generation migrated to Israel between 1948 when the state was founded and the late 1960s. The majority are from North Africa—Morocco, Tunisia, Libya and Algeria—but other important origins are Iraq, Yemen and Iran. This group is also aging now (Figure 3), though not so fast as European-born immigrants. Its current fertility is relatively high, and highest of the four Jewish groups—just over 3 births per woman—and life expectancy is only slightly below that of the other Jewish groups (Table 3). As already noted, the occupational status and educational levels of this group are relatively low, and so is average income. Among Jews, the proportion of working women aged 25-34 is lowest for this group (49 percent in 1982) but this is still three-and-a-half times the comparable figure for the total Arab population (14 percent).

Afro-Asian Jews of the second generation have a very young age structure (Figure 3). They are the largest and fastest-growing of the Jewish groups. Their fertility is lower than that of first-generation Afro-Asians (2.9 births per woman in 1982), and their educational level is higher, but still much lower than that of Israeli-born Jews of European-American origin, as noted.

Micha Bar-Am/The New York Times

Afro-Asian supporters of Menachem Begin demonstrate in Jerusalem. Oriental Jews outnumbered European-American Jews by 1970, which was an important factor in the 1977 election victory of Begin's rightwing Likud bloc over the leftwing Labor parties.

In sum, these groups still differ somewhat in fertility and considerably in population age structures, though they are similar in life expectancy. Along with marked socioeconomic variations, these demographic differences are related to group differences in political orientation and voting behavior. While a majority of first- and second-generation European Jews support the leftwing Labor parties, a large proportion of Orientals support the rightwing Likud parties. When the Likud bloc increased its share of total votes in the most recent election of 1981, about two of every three of its supporters were of Oriental origin, while supporters of the Labor party, ousted from control in 1977, were 70 percent European-American Jews.

All these groups are concentrated in urban localities (defined as settlements with 10,000 or more inhabitants, but also including certain nonagricultural settlements of fewer than 10,000). More than 90 percent of the Jewish population lived in urban areas in 1982 and the level has been high throughout the nation's history. Within both smaller towns and the large metropolitan centers, the two ethnic groups tend to live segregated from each other. While many European Jews congregate in better-off inner-city areas and suburbs, many Oriental Jews remain segregated where they or their parents were sent upon arrival—"development towns" that have evolved from the early immigrant transit camps, or the areas that were abandoned Arab quarters inside or adjoining Tel Aviv, Jerusalem or Haifa. This residential segregation reinforces ethnic community institutions and distinctive behavior. Living close together encourages socialization, interaction and marriage within ethnic groups and thus helps maintain differences between European and Afro-Asian Jews, despite their growing similarities in other socio-demographic characteristics.

Arabs

About half of the Moslem Arab population in Israel is still rural, while the Christian Arab population is predominantly urban. Both groups rank far lower on the socioeconomic scale than Jews. For example, the average Arab household in urban areas has only about 70 percent of the income of its Jewish counterpart, according to a 1982 survey of the Central Bureau of Statistics, and the gap would be wider if rural families were included in the survey. Both Moslems and Christian Arabs are seldom eligible for the more generous child welfare payments, subsidized government housing loans and other increased benefits available to families who have had at least one member in the army because both groups are excluded from military service (though not the Druze). However, Christian Arabs are generally better off than Moslems.

Demographically, their life expectancies are similar at 72 years in 1982, two-and-a-half years below the figure of 74.5 for the Jewish population (Table 3). However, Christian Arabs have lower infant mortality than Moslems, a fertility rate less than half as high (2.3 compared to 5.5 births per woman in 1982), and marry on average two to three years later (Table 3). In fact, Christian Arabs now have the highest median age at first marriage for men (26.8 years) among all groups in the nation, along with the lowest fertility, as noted.

These socioeconomic and demographic differences are sources of tension and conflict now in Israeli society and may be exacerbated in the future. Oriental Jews already outnumber Jews of European or American origin and are increasing faster and are likely to dominate numerically in the future. Another gap is that between Jews and Arabs—socially, politically, culturally and demographically. Currently, Jews far outweigh Arabs in Israel's population at 83 percent to 17 percent, but the difference is bound to narrow in the future. In the combined populations of Israel and the Occupied Areas, the current majority of Jews is only 64 percent and this, too, will decline.

The third gap is broader and relates to the national character of Israeli society, crossing ethnic and religious boundaries. This is the gap between "Oriental" and "Western" cultures. The percentage of people of European origin is currently about 48 percent within the Jewish population in Israel, 40 percent in the total national population, and just 31 percent in the populations of Israel and the Occupied Areas combined. These proportions are likely to decline appreciably in the future. This could mean the waning of Israel as a Western-oriented society. Thus, demographic trends strike at the core of the nation's character.

Demographic Sources of Current Patterns

What explains Israel's present sociodemographic mosaic? To answer this, we take a look back at the demographic processes since the state's foundation.

Mass immigration: 1948-51

In early 1948 on the eve of Independence, the total population of Palestine was about 2 million, of which one-third was Jewish. The end of the British Mandate and declaration of statehood in May 1948 altered the demographic situation considerably. Geographically, the newly established Jewish state occupied only part of Palestine. Moreover, over 500,000 Arabs living in areas included in the new state fled as fighting between Israel and its Arab neighbors erupted into a full-scale War of Independence. Hence, the population of Israel in June 1948 consisted of 806,000 people—650,000 (81 percent) Jews, and the rest Arabs. As Table 4 shows (page 22), 85 percent of the Jewish population was of European origin. One of the more important political and demographic implications of Independence was the shift in the control over immigration to Jewish authorities. This touched off one of the most remarkable waves of migration in modern history, the socalled "mass immigration." Within three years, the Jewish population of Israel was doubled.

The first to arrive were European Jews who had been rerouted to Cyprus by the British authorities when attempting to immigrate illegally. Also among the first were refugees from Germany, Austria and Italy who had been waiting in refugee camps all over Europe, and Jews from Eastern Europe where it was feared that the right to emigrate would soon be cut off. These were joined by the first post-Independence immigrants from the Middle East, especially Yemen, Aden and Algeria, where repercussions of the Arab-Israeli conflict were making conditions untenable for long-established Jewish communities. All told, 100,000 immigrants arrived in 1948, most of them in two or three months at the end of the year, implying an enormous immigration rate of 17 per 100 relative to the initial population. The total for 1949 was about 250,000: from Turkey, Libya, the entire Jewish community of Yemen (35,000), and Poland and Romania as those countries opened up for Jewish emigration (see Figure 2, page 13). These diverse streams continued in 1950, with immigrants from Romania, Poland and North African countries dominating. Finally, 175,000 more arrived in the first half of 1951, about 100,000 from Iraq.

This ended the wave of mass immigration, dominated in the beginning by migrants from Europe and then by Oriental Jews from North Africa and Asia. The effects of that enormous influx on Israel's population can be seen in Table 4. Between June 1948 and the end of 1951, the Jewish population more than doubled, from 650,000 to 1.4 million; the proportion of Jewish population of Oriental origin increased from 15 to 33 percent; and the Jewish proportion of Israel's total population rose from 81 to 90 percent. Hence, mass immigration changed Israel's population profile radically in a very short period. It also had major long-term effects.

Mass immigration was prompted on the one hand by the enormous reservoir of Jews eager to migrate to Israel and, on the other, by the extraordinary efforts made to bring in the largest possible number of Jewish immigrants in the shortest possible time, despite the hardships that would inevitably follow. Three factors propelled these efforts. First, it was recognized that increasing the Jewish population was the most direct way to create a viable Israeli society, both in the short and long run. Second, a rapid influx of immigrants was the only way to acquire human resources sufficient to defend the country against hostile neighbors. Third, mass immigration to a Jewish state was the concrete fulfillment of a core theme in Zionist ideology. In all three respects, Israel's immigration policies following Independence were remarkably successfuly.

However, mass immigration involved heavy costs, both immediately and over the long term. Economic hardships in Israel following the War of Independence and mass immigration were severe: inflation, high unemployment among newcomers as the few available jobs were

Table 4. Demographic Development of Israel's Population: 1948-1981

Demographic characteristic	Time period	Jewish population		Arab population	
		European	Oriental	Moslem	Christian
Total population	June 1948	550,000	100,000	107,000	49,000
Percent of major group	June 1948	85	15	69	31
Percent of total population	June 1948	68	13	13	6
Life expectancy	About 1948	69	35-40[a]	50	60
Total fertility rate	About 1948	3.2	6.3[a]	7.4	4.6
Annual rate of natural increase, per 1,000	About 1948	20	20[a]	39	27
Net immigration	June 48-June 51	350,000	337,000	0	0
Total population	End 1951	940,000	465,000	120,000	53,000
Percent of major group	End 1951	67	33	69	31
Percent of total population	End 1951	60	29	8	3
Life expectancy	1952-66	70.6	70.6	67.4	67.4
Annual rate of natural increase, per 1,000	1952-66	13	22	46	25
Net immigration	1952-66	236,000	334,000	0	0
Total population	End 1966	1,196,000	1,149,000	223,000	90,000
Percent of major group	End 1966	51	49	73	27
Percent of total population	End 1966	44	42	10	4
Life expectancy	1967-81	73	73	70	70
Total fertility rate	1967-81	2.7	3.2	7.6	3.2
Annual rate of natural increase, per 1,000	1967-81	8	19	42	19
Net immigration	1967-81	361,000	87,000	0	0
Total population	End 1981	1,588,000	1,731,000	514,000	144,000
Percent in major group	End 1981	48	52	78	22
Percent of total population	End 1981	40	44	13	4
Percent of population in Israel and Occupied Areas	End 1981	31[b]	34[b]	10[b]	3[b]

Sources: Central Bureau of Statistics, *Statistical Abstract of Israel*, various issues; and authors' estimates, based on official censuses and registration.

[a] These figures relate to the period before immigration. During 1948-51, life expectancy and the annual rate of natural increase for the Oriental Jewish population was approximately 66 years and 40-45 per 1,000 population, respectively.

[b] This distribution was calculated by including 1,180,000 Arabs in the territories administered by Israel after 1967, representing 23 percent of the combined 1981 populations of the state of Israel and the Occupied Areas of the West Bank and the Gaza Strip.

Note: All population numbers are rounded. The Christian population is equal to the total non-Moslem Arab population for population figures and Christians only for all other data. Jewish data include estimated data for the Israeli-born of Israeli-born parents (third generation) by ethnicity, which are not collected by the Central Bureau of Statistics.

given to demobilized soldiers when the war ended in mid-1949, and shortages of everything, especially housing. As the supply of abandoned Arab housing came to an end, immigrants were gathered in transit camps, *ma'aborot*, where they were housed in tents and hastily constructed barracks. In early 1952, a quarter of a million immigrants lived in transit camps, most of them latecomers in the immigration wave. For the better-educated, skilled European immigrants, the stay in transit camps was usually brief. But many non-European immigrants lingered on and were less integrated into the mainstream of Israeli life as the camps evolved into "development towns."

Later immigration

Altogether, 1.7 million immigrants arrived in Israel between 1948 and 1982; almost 700,000 in the mass immigration wave of 1948-51. Thus immigration in the three decades since 1951 has been much less spectacular, although still high by international standards. Oriental immigration, primarily from North Africa, dominated up to 1966, but by then the reservoir of Jewish population in Arab Middle Eastern countries had dwindled because of earlier emigration. Immigrants in the early 1970s were predominantly European, while in the later 1970s and early 1980s, as noted, immigration from all sources waned markedly. During the 1970s, the largest proportion of immigrants came from the Soviet Union, some from Romania and the United States, and a few from Latin America (particularly Argentina) and from among the Jewish Moroccan population of France. Of the 47,000 immigrants arriving between 1980 and 1982, 24,000 came from Europe, 14,000 from America, and the rest from Asia or Africa.

Demographic integration of Oriental immigrants

With their large numbers in the early years of immigration, combined with high fertility and rapidly declining mortality, Oriental immigrants quickly became a large and increasing proportion of the Jewish population. Their arrival changed the pre-Independence cultural and demographic homogeneity of that population. In looks, dress, diet, speech and education, the newcomers differed from their European compatriots. Most, for example, spoke Arabic as their first language, while Yiddish was the mother tongue used at home by many pre-Independence immigrants. Socioeconomic differences have not disappeared, as we have seen, but the mortality and fertility patterns of Oriental Jews have now converged with those of European Jews.

Embassy of Israel

A Moroccan mother and child in an immigrant transit camp of the early 1950s.

Coming from nonmodern, nonindustrialized Arab countries of the Middle East and North Africa, Oriental Jewish immigrants were generally uneducated and unskilled by Western standards. Their health was poor; life expectancy at birth in societies from which they came was often as low as 35-40 years (see Table 4). Most of them had worked in small family-run businesses. After immigration to Israel, this close link between work life and family life was broken as most working men became hired laborers or employees in larger industrial enterprises. And in Israel, where education was compulsory for at least eight years, Oriental Jews' educational levels increased. As a result, there were dramatic changes

Table 5. Total Fertility Rates, by Religion and Place of Birth: 1955-1982

(Number of births per woman)

Population group	1955	1960	1965	1970	1975	1980	1982
Total population	4.03	3.95	3.99	3.97	3.68	3.14	3.12
Jewish population							
Total	3.64	3.49	3.47	3.41	3.21	2.76	2.79
Born Europe-America	2.63	2.38	2.60	2.84	2.82	2.76	2.81
Born Africa-Asia	5.68	5.10	4.58	4.07	3.77	3.04	3.06
Born in Israel	2.83	2.76	2.88	3.12	3.08	2.76	2.80
Arab population							
Moslems	7.96	9.31	9.87	8.95	7.75	5.98	5.53
Christians	4.85	4.61	4.74	3.62	3.35	2.66	2.34
Druze and others	6.58	7.88	7.61	7.46	6.85	6.09	5.48

Source: Central Bureau of Statistics, *Statistical Abstract of Israel*, various issues.

Note: See Table 3 (page 11) for definition of the total fertility rate.

in the mortality, fertility and marriage patterns of Afro-Asian Jews.

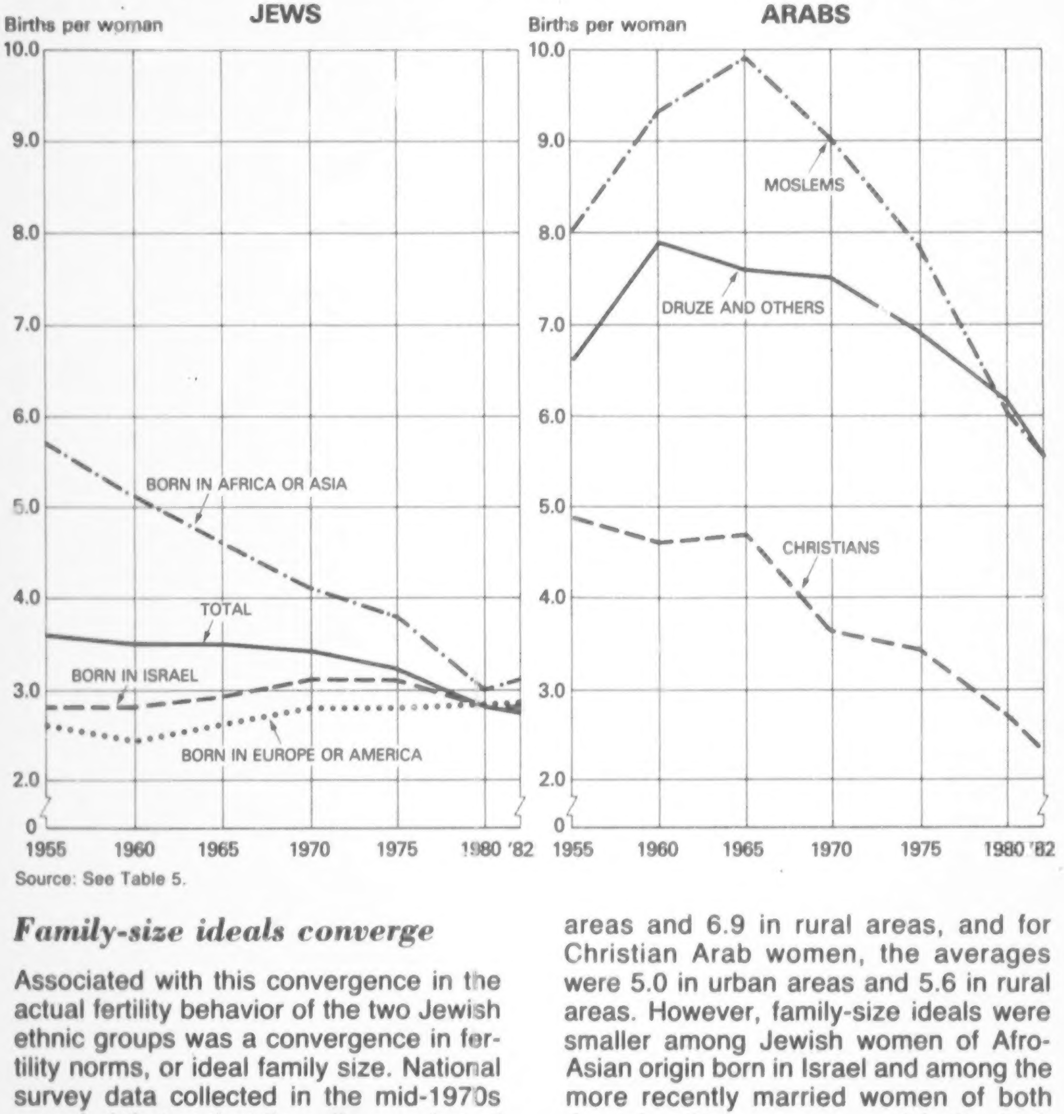
Their mortality transition was particularly rapid and occurred virtually overnight. All immigrants were drawn into the existing comprehensive health service system on arrival. Thus, initial ethnic differences in mortality disappeared almost immediately; by 1966, life expectancy at birth was 71 years for both Oriental and European Jews (Table 4). This mortality transition—an accelerated version of the mortality transition that occurred in the less developed countries of Asia and Latin America in the 1950s and 1960s—was the beginning of the demographic convergence between population subgroups in Israel.

Consistent with patterns in the traditional societies from which they came, the fertility rate of Oriental immigrants probably averaged six or seven births per woman about the time of their arrival. The socioeconomic transformation following immigration implied, among other things, an increase in the direct and indirect costs of childbearing and rearing. Thus, it is not surprising that their fertility transition began quite soon after immigration. The total fertility rate of Afro-Asian immigrant women dropped 28 percent, from 5.68 to 4.07 births per woman, in the 15 years from 1955 to 1970 and in 1982, just another 12 years later, was down to 3.06, about half the 1955 level (see Table 5 and Figure 4).

The conflict between high fertility and the new societal characteristics of these immigrants was so sharp that couples began simultaneously to space out births and to stop childbearing earlier than previous generations had. The usual fertility transition pattern—in Western societies historically and in developing countries today—is that first older women begin to stop childbearing earlier and only later do younger couples begin to stretch out the intervals between marriage and the first birth and that and later births.

The sharp decline in fertility among Oriental immigrants and a small increase in fertility among European immigrants resulted in convergence in the fertility patterns of the two major ethnic groups of Israel's Jewish population, as illustrated in Figure 4. By 1982, as noted, there was little difference in the fertility rates. It is notable that the fertility decline among Afro-Asians occurred in a society where almost no government family planning facilities are provided and where pronatalist attitudes have always existed and been reinforced by ideology and popular culture.

Figure 4. Total Fertility Rates for Jews and Arabs: 1955-1982



Source: See Table 5.

Family-size ideals converge

Associated with this convergence in the actual fertility behavior of the two Jewish ethnic groups was a convergence in fertility norms, or ideal family size. National survey data collected in the mid-1970s revealed that at that time, the number of children that women considered ideal still varied considerably between Afro-Asian women and women of European origin among Jews and between Moslems and Christians among Arab women. For Jewish women born in African or Asian countries, the ideal was over five children, on average, in contrast to an average of 3.5 children reported by Jewish women of European origin. The ideal for Moslem women averaged 6.1 children in urban areas and 6.9 in rural areas, and for Christian Arab women, the averages were 5.0 in urban areas and 5.6 in rural areas. However, family-size ideals were smaller among Jewish women of Afro-Asian origin born in Israel and among the more recently married women of both Jewish ethnic groups and both Arab groups. This suggests that there is a growing consensus among both Jews and Arabs in Israel around a family of three to four children—higher than the average family ideal of two children now typical of most more developed countries.

Detailed data reveal that among young Jewish couples of both ethnic groups there was a relatively close fit in the mid-1970s between ideal family size and actual fertility behavior. Thus the decline in Afro-Asian fertility was evidently accompanied by a downward adjustment in fertility norms.

Among Moslem women, however, ideal family size was much lower than actual fertility, on average. From this it could be expected that Moslem fertility, particularly among the better-educated and urban women, would continue to decline. This has indeed happened markedly since the mid-1970s, as described below. However, the evidence also suggests that programs are needed to minimize the gap that still remains between the actual and desired family size of Moslem women.

Age structure effects

The heavy influx of immigrants concentrated in a short period following Independence and the large proportion of high-fertility Oriental immigrants among the newcomers resulted in wide fluctuations in Israel's population age structure and dynamics. This has had a long-lasting impact on social processes that are age-related—infant care, schooling, military recruitment, marriage and voting.

The average annual number of births in 1948 through 1952 (33,900 per year) was more than double the number of births in Palestine in 1947 (16,200). In the next five years, the annual average went up to 43,200. This baby boom meant that health services and nursery schools needed for infants and small children had to be abruptly expanded. Next, primary schools had to be expanded rapidly to accommodate the flood of children reaching age six, the usual age for entrance into primary school. In 1952, children aged six were triple the number in 1947 and in 1957, the number was quadruple the number ten years earlier. Then in the mid-1960s, the secondary school system had to cope with a doubling of the school population of this age. In the late 1960s and early 1970s, the pool of military draftees suddenly expanded. (By law, all males and all unmarried females are required to join the armed forces at age 18; men to serve for three years, women for two. Arabs, except for Druze, are exempt from military service.) About the same time, the first enlarged cohort of women reached their early twenties, the usual age for women to marry. However, their potential spouses—men several years older—originated from relatively small birth cohorts. This imbalance in the number of potential brides and grooms resulted in a "marriage squeeze" for women.

These age dynamics, along with the increasing proportion of Jews of Oriental origin, also contributed very significantly to the change in political power in 1977 when the Likud bloc emerged with the largest share of votes in the election and displaced the Labor Party to form a coalition government. The large cohorts born during and following the mass immigration period, with their relatively large proportion of Jews of Oriental origin, reached voting age (18) in the late 1960s and early 1970s. By 1977, the Jewish population aged 20-24 was about 60 percent of Oriental origin and 40 percent of European-American origin. Just ten years earlier, these proportions were split evenly. Hence, the rise to power of the first Begin coalition government was partially a product of demographic dynamics which had started nearly three decades earlier when the Ben-Gurion government initiated and implemented the policy of mass immigration. This impact has continued. A recent study reveals that in the 1981 election, in which the Likud bloc increased its share of the total vote, about 90 percent of young Jews of North African origin voted for parties represented in the Likud coalition, compared with just 25 percent of European-American Jewish youth.[5]

Moslem fertility decline delayed

An interesting question in the demographic history of Israel is why the fertility decline of the Moslem Arab population (and that of the Druze, whose characteristics are similar) was so long delayed. Welfare and living standards improved noticeably during the British Mandate for all Palestinian Arabs and this progress accelerated after 1948 for Arabs living in the new state of Israel. This half century of socioeconomic development, which was particularly rapid after 1948, might have been expected to lead to lower fertility and smaller family sizes, as happened in most of the now developed countries beginning in the late 19th century and is noted today when comparing less developed countries at different stages of development. Yet, during the whole Mandate period the fertility of married Moslem women was about eight births or more per woman. When Israel was established in 1948, the total fertility rate for the remaining Moslem population of some 107,000 was about 7.4 births per woman (Table 4). Thereafter, the rate increased to nearly 10 births per woman in the mid-1960s and a significant decline began only in the mid-1970s (see Table 5 and Figure 4).

To explain this delay, we need to examine the relationship between the extent of socioeconomic development and changes in the family and roles of women and the timing and speed of fertility change. The experience of the Arab Moslem population in Israel is a remarkable illustration of such interrelationships.

From 1948 to 1962, Israel's Arab population lived under military administration, which made communication and social interaction with the Jewish sector difficult. Israeli military and civil authorities found it convenient to deal with the Arab minority through its traditional political institutions. This did much to preserve and strengthen the *Hamule*, networks of kinship groups based on patrilineal descent that held political and economic power in traditional Moslem Arab villages and derived much of that power from the size of their related extended families. Hence, the traditional social structure of the Arab minority changed very little during the first 25 years of Israeli rule. One important result was that no alternative channels for social mobility, for the role and status of women, and for the transmission of political power were formed outside the traditional *Hamule*. Nevertheless, the level of living of Israeli Arabs improved and many more social services were made available to them.

The Israeli system of compulsory primary education covered the Arab population and within a decade educational levels began to rise noticeably. Health services were expanded; by 1976, the proportion of Arab women giving birth in hospitals was 98 percent, up from 55 percent in 1960, and Arab life expectancy was up to about 67 years by the mid-1960s, only three years behind the level for the Jewish population (Table 4). Even before the military administration ended, Arab villagers were selling farm products to the Jewish sector and earning more than they had during the British period because improved technology increased their production. After restrictions on Arab movement out of military controlled areas was lifted in 1962, the percentage of Moslems working in agriculture declined rapidly. The majority of the rural work force became hired laborers, commuting to jobs in the Jewish sector. The demand for laborers increased rapidly during the economic boom between the Six Day War of 1967 and the Yom Kippur War of 1973 and Arab village income per capita increased nearly to $2,000 a year—far above the level of other traditional societies.

Other changes included improved communications; many Arab villages were drawn into the network of roads, telephone and the mass media. Electricity and central water supplies reached the majority of Arab villages. Like all Israeli citizens, Arabs participated in the comprehensive state social security and social welfare system. Particularly relevant here were free prenatal and postnatal care, free hospitalization for mothers giving birth, and an income allowance for working mothers for three months after delivery. Most important

Embassy of Israel

An Israeli Moslem mother and daughters in their village near Haifa. Moslem socioeconomic progress was rapid after 1948 but marked fertility decline began only in the mid-1970s.

was the introduction of child allowances in 1959. By 1974, these allowances constituted 30 percent, 36 percent, and 42 percent of the average wage in Israel for both Jewish and Arab families with six, seven and eight children, respectively. Since the wages of Arabs are generally much lower than average, the contribution of child allowances to total income was even more important for Arab families, and undoubtedly represented an attractive fertility incentive.

These changes did not affect the different Arab population subgroups equally. Arabs living in urban areas, predominantly Christians, had been exposed to affluence and modern living conditions for many years. Social structure, and the family in particular, changed more rapidly in the city than in the rural village. In the village, the more skilled and educated could enjoy the new general prosperity more fully than the unskilled and uneducated.

Such changes in other societies usually result in lower fertility, as parents choose to have fewer children in order to take still more advantage of expanding socioeconomic opportunities. But for the Moslems of Israel, the pattern of development after 1948 actually reinforced the benefits of large families.

One factor was the continuing importance of the traditional *Hamule,* and for the *Hamule,* and in turn for the family and women, high fertility was still a source of power and prestige. Although the majority of rural Moslem workers might now take jobs outside the village (without actually moving from the village), this apparently did not contribute sufficiently to the weakening of extended family ties to affect fertility. Such mobility merely meant that some members of the family (including women and children) could remain in agriculture while other adults could work in the Jewish sector at substantially higher incomes. Increased incomes, along with welfare allowances like free primary education, subsidized high school education and health services, and, particularly, the extremely generous child allowances, meant that both large families and other familial and individual goals, as well as new consumption items, could be achieved simultaneously. Hence, the large family could survive, despite the fact that socioeconomic change tended to weaken family ties.

In other words, not all aspects of socioeconomic development inevitably produce strains, leading to conflict with high fertility in the short run. Indeed, some factors could reduce such strains and delay conflict. This is why the process of fertility decline for Israeli Moslems lagged behind socioeconomic progress longer than might have been expected. However, this is not to argue that the conflict between high fertility and the maximization of opportunities was averted; it was only delayed. Continuing development has now led to a rapid drop in Moslem fertility. In the seven years between 1975 and 1982, the total fertility rate for Moslem women declined nearly 30 percent, from 7.8 to 5.5 births per woman (Table 5 and Figure 4).

Lower fertility among Christian Arabs

Israel's small minority of Christian Arabs developed differently. It was more urban, more educated, more likely to be employed in white-collar occupations, and much less family oriented than the Moslem population. It was also the first and only Arab group where fertility began to decline already during the British period. Evidence from the 1961 Israeli census suggests that for women married during the early 1920s, the completed family size of Christians was similar to that of Moslems. But by the mid-1950s, the total fertility rate of Christian Arab women was down to less than two-thirds the rate of Moslem women (4.9 versus 8.0 births per woman) and declining rapidly to a rate of 2.3 births per woman in 1982 (Table 5 and Figure 4).

Arabs in West Bank and Gaza

The 1.2 million Arabs living in the West Bank and the Gaza Strip, occupied and administered by Israel since 1967, are mostly Moslems who remained or resettled there when Israel was founded in 1948. Some socioeconomic progress has occurred for these Moslems—slowly between 1948 and 1967, and much more rapidly since the Israeli takeover. But so far few signs of fertility decline are evident.

From sketchy data it appears that educational levels increased about as much for Arabs in the West Bank and Gaza as for Israeli Arabs between 1948 and 1967, when the two populations were totally cut off from each other. During this period, however, real income remained constant in the West Bank and Gaza, while more than doubling for Israeli Arabs. After 1967, Moslems in the Occupied Areas began to catch up, although living standards and health conditions remain below those of Arabs in Israel. Like Israeli Moslems, these Moslems have rapidly shifted out of agriculture to factory work, construction and services; more than 75,000 (about one-third of the work force of the two areas) now commute to jobs in Israel proper. Between 1968 and the mid-1970s, real income per capita more than doubled to $600, though this was still below the $2,000 for Israeli Arabs at that time. With the extension of health services under the Israeli administration, life expectancy at birth rose from 49 to 55 years over the same period, and the percentage of births taking place in hospitals nearly tripled from 13 percent in 1968 to 36 percent in 1980. Thus, socioeconomic progress in the Occupied Areas has resembled that of Israeli Arabs, but with a delay of about a decade.

The same appears to be true of fertility patterns. The surveys of the mid-1970s mentioned earlier revealed that the more recently married women in the Occupied Areas had had more births up to that time than older women had had at comparable times in their marriage. This pattern was similar to that which characterized the fertility of Israel's rural Moslem population a decade or so earlier. Fertility decline had apparently then not yet begun in the Occupied Areas. Fertility was similar and high in both rural and urban areas. The only signs of lower fertility were found for women with nine or more years of education. However, this was a small group, representing less than 10 percent of all married women, although about a quarter of the younger married women, married less than ten years.

One reason for the continued high fertility in the West Bank and Gaza is probably the fact that there, too, the traditional *Hamule,* with its emphasis on large families, appears to have retained its central place in the social structure. As happened in Israel itself from 1948 to 1962, contacts between Israeli authorities and the Arab population of the Occupied Areas have been channeled mainly through the *Hamule* since 1967, thus probably reinforcing its prestige and legitimacy. On the other hand, the generous child allowances, which have probably been an inducement for large fam-

Embassy of Israel

Hebron in the West Bank. Some socioeconomic progress has occurred for Arabs in the Occupied Areas but few signs of fertility decline are evident so far.

ilies among Israeli Moslems, have not been extended to Arabs in the Occupied Areas. This might lead one to expect lower fertility among Moslems of the West Bank and Gaza than in Israel proper, but this has not been the case.

Published estimates by the Central Bureau of Statistics suggest that between 1968 and 1980 crude birth rates remained high and little changed—around 45 per 1,000 population in the West Bank and 50 and more per 1,000 in the Gaza Strip. Age-specific birth rates also indicate continuing high fertility among Moslems in both areas. The latest figures based on Central Bureau of Statistics estimates show some decline in the annual rate of births per 1,000 population in the West Bank since 1976, due particularly to a rise in women's age at marriage. This should not be taken as a clear sign that the fertility decline has begun in the West Bank at least, because "crude" birth rates, particularly for Israel's Occupied Areas, are necessarily based on rough estimates of annual births and population size and are further influenced by changes in population age structure.

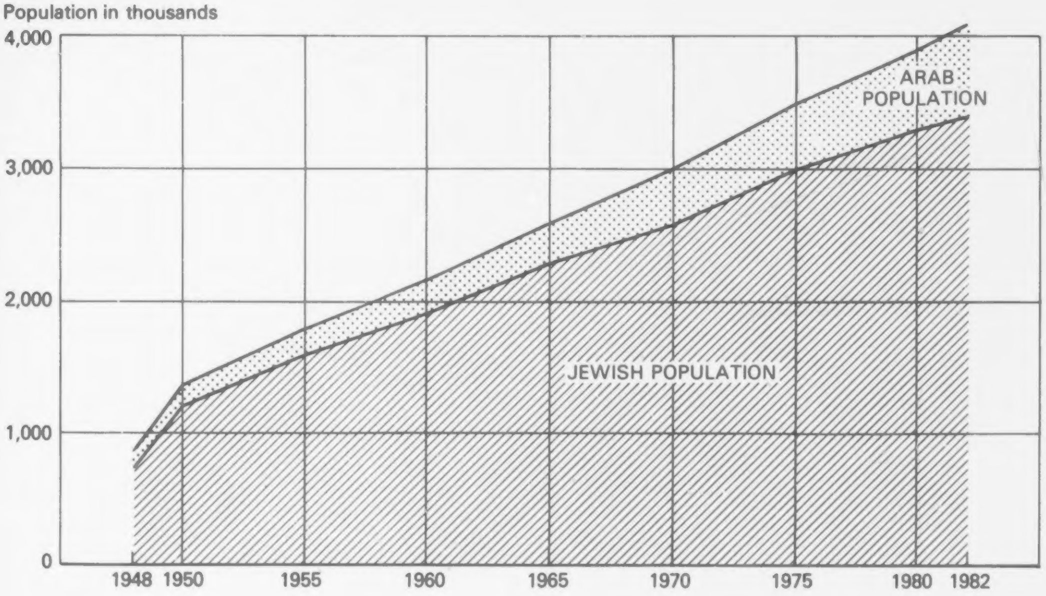
Although the birth rate and the rate of natural increase are still very high in the Occupied Areas, the population of the West Bank, at least, has grown very little over the past 30 years. This population was 724,000 in 1952 and increased only to 747,000 in 1982; since 1975, annual growth has averaged only 1 percent. (The Gaza Strip experienced negative growth rates in the late 1960s but grew at an average rate of 2.7 percent per year in the 1970s, to reach an estimated 454,000 people in mid-1983.) Obviously emigration rates have been high in the West Bank. Before 1967, many Arabs of the West Bank moved to the more industrialized East Bank where more jobs were to be found and since then, many have been attracted by higher pay in oil-rich Arab states of the Persian Gulf and, more recently, by opportunities in Europe and America.

Jewish-Arab balance since 1948

There has been no net immigration of Arabs into Israel since the state was formed, but natural increase of this population averaged about 4.5 percent a year from 1948 to 1981 (Table 4, page 22). The Jewish population grew mainly through immigration and, to some extent, through the relatively high fertility of Oriental Jewish immigrants, and increased at an annual rate of nearly 5 percent, on average, over these 33 years. As a result, as Table 4 and Figure 5 show, the balance of Jews and Arabs remained remarkably constant: 81 percent Jewish to 19 percent Arab in June 1948; 84 percent Jewish to 16 or 17 percent Arab at the end of 1981. (At the end of 1982, the Jewish percentage was 83 percent, see Table 2, page 9.) Thus differentials in fertility and immigration have so far balanced out to maintain the demographic status quo between the Jewish and Arab populations of Israel.

However, demographic changes have considerably shifted the ethnic or relig-

Figure 5. Growth of Jewish and Arab Populations in Israel: 1948-1982



Source: Central Bureau of Statistics, *Statistical Abstract of Israel 1983*, No. 34 (Jerusalem: 1983) Table II/1.

ious balance within these two major groups. While the Jewish population was undergoing a process of "Orientalization," from 15 percent Oriental in mid-1948 to 52 percent in 1981, the Arab population was undergoing a process of "Islamization," from 69 percent Moslem in mid-1948 to 78 percent in 1981 (see Table 4).

The political future of the West Bank and Gaza Strip is still undecided. Within the present borders of Israel, the population share of Jews of European-American origin was only 40 percent in 1981, although the total Jewish proportion was 84 percent at the end of that year. In the combined 1981 populations of Israel and the Occupied Areas, the share of Jews of European-American origin was only 31 percent and the total Jewish proportion was 65 percent. Thus, annexation of the West Bank and Gaza Strip would even now have critical demographic consequences and this in turn would have cultural, political and economic implications.

The Future: Demographic Patterns and Israeli Society

What do these current demographic patterns imply for the future? What are growth patterns and variations among the groups making up Israel's demographic mosaic likely to be over the next several decades? How will these patterns affect Israel's population age structure, particularly the proportion of dependent elderly persons and arrangements for their social and economic welfare? What implications will future demographic trends have for cultural and political dominance, either within the present boundaries of Israel or within a "Greater Israel" if the Occupied Areas are annexed and the large numbers of Arabs living there are incorporated into Israel's society?

Population projections: 1980-2015

To begin to answer these questions, projections for 1980-2015 have been made separately and combined for the Jewish population in Israel, Arabs (or the non-Jewish population) in Israel, and the Arab population in the presently Occupied Areas. As with any population, Israel's population structure at some future date will be shaped both by its current structure and by trends in life expectancy (or mortality), fertility and migration between now and that future date. Hence these projections are based on the actual distribution of the three population subgroups by age and relative numbers in 1980 and on assumptions about group differentials in life expectancy, fertility and migration trends between 1980 and 2015. An outline of these assumptions is shown in the Appendix table (page 38).

Life expectancy is assumed to increase slightly for all three groups. For Arabs in Israel, only one trend is assumed for fertility (a decline from a total fertility rate of 5.0 births per woman in 1980-84 to 2.8 in 2010-14) and for migration (continuing zero net immigration). For Jews in Israel and the Arab population in Occupied Areas, the projections vary according to "low" and "high" assumptions regarding fertility and migration. For the Jewish population, fertility is projected to decline from a total fertility rate of 2.7 births per woman in 1980-84 and stabilize at 2.0 under the low assumption and at 2.5 under the high assumption. Fertility for Arabs in the Occupied Areas begins with a total fertility rate of 7.5 in 1980-84 and drops to 4.5 in 2010-14 under the low assumption and to 5.5 in the high assumption. The low and high assumptions for migration between 1980 and 2015 range for the Jewish population in Israel from an annual net immigration of 3,000 to 15,000, while net emigration ranges from 5,000 to as high as 34,000 per year for the Arab population in the Occupied Areas. The results of these alternative projections are shown for 1985, 2000 and 2015 in Tables 6 and 7. In Table 6, the "minimum" projections use the low assumptions regarding fertility and migration for both the Jewish population in Israel and the Arab population in the Occupied Areas, while the "maximum" projections use the high fertility and migration assumptions for these two populations. In Table 7, the minimum projections combine the low assumptions for the Jewish population in Israel and the high assumptions for the Arab population in the Occupied Areas; the maximum projections combine high assumptions for the Jewish ppulation and low assumptions for Arabs in the Occupied Areas. Our consideration of the impact of demographic trends on Israeli society over the next several decades is based mainly on these projections and on a projection of the Jewish population of Oriental origin.

Future population growth

As we have seen, Israel's population growth was extremely high in the first years following Independence in 1948, thanks to heavy immigration and the then high fertility of Oriental Jews (as well as that of the small Moslem minority). Since then the rate has dropped to about 1.8 percent a year (see Figure 1, page 10). This decline can be expected to continue, even according to the maximum projections shown in Table 6, which assume higher fertility and net annual immigration for the Jewish population than do the minimum projections. The overall population growth rate for Israel within its present boundaries is projected to vary between 1.4 and 1.7 percent a year up to the end of this century and then to drop during the next 15 years, though it will still be over 1 percent a year as seen in Table 6. These are high growth rates by current standards of more developed countries. Israel's total population reaches 6.9 million in 2015 according to the maximum projection and 6.2 million according to the minimum projection, up from 4.1 million at the end of 1982.

The Jewish population within Israel is

Table 6. Projected Population Growth for Jews and Arabs: Israel and Israel and Occupied Areas, 1985, 2000, 2015

Population group	Projection	Population (in thousands) 1985	2000	2015	Average growth rate per year (in percent) 1985-2000	2000-2015
Jews in Israel	Minimum	3,534	4,160	4,698	1.1	0.8
	Maximum	3,585	4,496	5,444	1.5	1.2
Arabs in Israel	One projection	744	1,096	1,481	2.6	2.0
Israel (Jews and Arabs)	Minimum	4,278	5,256	6,179	1.4	1.1
	Maximum	4,329	5,592	6,925	1.7	1.4
Arabs in Occupied Areas	Minimum	1,262	1,603	1,851	1.6	0.9
	Maximum	1,262	1,938	3,142	2.9	3.3
Arabs in Israel and Occupied Areas	Minimum	2,006	2,699	3,332	2.0	1.4
	Maximum	2,006	3,034	4,623	2.8	2.8
Total population in Israel and Occupied Areas	Minimum	5,540	6,859	8,030	1.4	1.1
	Maximum	5,591	7,530	10,067	2.0	2.0

Source: Authors' estimates, based on census and other official base data.

Note: See Appendix Table (page 38) for assumptions used in minimum and maximum projections. In this Table 6, focusing on population growth, the minimum projections combine the low fertility and migration assumptions for Jews in Israel and Arabs in the Occupied Areas and the single series of assumptions for Arabs in Israel. The maximum projections combine the high assumptions for both Jews in Israel and Arabs in the Occupied Areas and the single series for Arabs in Israel.

likely to grow at somewhere between 0.8 and 1.5 percent a year over the next generation, while the Arab population in Israel will continue to grow by 2.0 to 2.6 percent a year. The Arab population's relatively high growth stems from its current very large proportion of young people in or about to enter the childbearing ages (the result of high fertility) which will keep total numbers of annual births high even though the rate of births *per woman* is expected to decline markedly.

The future growth of the Arab population in the Occupied Areas will depend on two factors which are difficult to predict. One is the timing and pace of their transition to lower fertility and the other is the extent of Arab emigration from these areas, which in the West Bank, at least, has been quite significant in recent years, as noted. Assumptions about these factors explain the relatively large differences between the minimum and maximum projections for this group shown in Table 6. If the Occupied Areas are annexed by Israel, the population growth rate of this "Greater Israel" could be a high 2.0 percent a year up to 2015, and population numbers could reach 10 million in 2015. (A population growing by 2 percent a year doubles in number in 35 years.)

These relatively high overall population growth rates and the differences among the three groups have social and political implications which we outline below, after a look at the implications of future changes in the age composition of the population within Israel's current boundaries.

Age structure and aging

In 1955, 35.3 percent of Israel's population were children under age 15, 59.9 percent consisted of men and women in the working ages of 15-64, and 4.8 percent were the elderly, aged 65 and over. By 1980, the proportion of children had declined to 33.3 percent, because of declining fertility, while the proportion of elderly increased to 8.6 percent, and that of people in the working ages remained fairly constant at 58.2 percent. Since our projections assume further declines in fertility, the proportions of children are projected to decline to 27 percent in 2000 and 25 percent in 2015. The share of the elderly is projected to reach 9.8 percent in 2015, which is not high relative to other developed countries. (The proportion of persons aged 65 and over in the U.S. population is close to 12 percent in 1984 and is projected to be just over 15 percent in 2015, as the first of the baby boom generation, born 1947 to 1964, reaches retirement age.[6])

It is significant, however, that the proportion of Israel's population in the 15-64 age group, which must support the dependent groups below and above these ages, may be expected to increase to nearly 66 percent by the year 2015. This increase in the proportion of people in the working ages, coupled with the projected decline in the overall population growth rate, will be economically beneficial for Israel.

After 2015, however, both the number and share of the elderly aged 65 and over will increase significantly as the enlarged birth cohorts of the mass immigration period of the late 1940s and 1950s begin to enter those ages. In addition, there will be changes in the ethnic composition of the aged. Like earlier ethnic shifts in Israel's overall Jewish population, these will result from the dominance of Oriental Jews in the immigration influx from the late 1940s to the mid-1960s and their initially higher fertility. In 1948, 80 percent of the elderly were of European origin, since the majority of immigrants prior to the establishment of Israel came from European countries. This proportion was still a relatively high 72 percent in 1970. However, when the expanded birth cohorts of the 1950s and early 1960s dominated by Afro-Asian ethnic groups begin to reach retirement age in the early part of the next century, the proportion of the elderly of European origin will drop to well below 50 percent.

Embassy of Israel

Afro-Asian Jews will predominate among elderly Israelis after 2015 when the expanded birth cohorts of the 1950s reach retirement age.

Assuming, as is quite reasonable, that the educational and occupational status of adults in Israel will not change radically over the next 30 years, this ethnic shift will likely be accompanied by a major shift in the socioeconomic status of the elderly. For example, about three-quarters of Israel's current elderly people have at least a primary school education and only one-quarter failed to complete primary school. By 2000, the proportion in the first category will be down to 58 percent and could fall lower after that. Similarly, the proportion of the elderly who have worked in high white-collar occupations (professionals and managers) is projected to decline from about 30 percent at present to only 24 percent in the year 2000 and could also decline further in the following years.

Accompanying these shifts will be a transition in the potential for the family support of the elderly that has traditionally characterized the Afro-Asian ethnic group. This increasing segment of the elderly population will be left with a smaller number of adult children to support them than earlier generations had—an estimated decline of one-third in the number of potential family supporters between 1970 and 2000 alone. This is because, during the 1950s and 1960s, family size fell more rapidly than socioeconomic status improved for Israelis of Afro-Asian origin.

This combination of a growing proportion of elderly people, shifts in the ethnic and socioeconomic composition of this group, and potentially less family support for those of Afro-Asian origin will engender and accentuate a host of welfare and institutional problems for Israel early in the 21st century. These problems, like many others, stem in large part from the successful implementation of the policy of mass immigration in the early years of statehood.

Jewish ethnic balance

A central theme in the evolution of Israeli society has been the changing ethnic balance within the Jewish population. As we have seen, this has resulted from shifts in the volume and composition of immigrant streams, changes and differentials in fertility among immigrants, and from rapidly declining mortality among Oriental Jewish immigrants. These have transformed the Jewish Israeli population from 85 percent of European origin, as it was just after the state's foundation in 1948, to 52 percent of Afro-Asian origin by 1981. The Orientalization of the Jewish population will continue in the future, both among first-generation immigrants and among second and later generations of Jews born in Israel.

The pace of Orientalization will depend mainly on immigration, since the fertility of Afro-Asian Jews is now close to that of European-American Jews. Any future immigration will inevitably be dominated by Jews from Europe or America because few Jews remain in Afro-Asian countries. Hence, a resurgence of immigration would slow the process of Orientalization. However, even conservative projections suggest that by 2015 the proportion of Orientals in the Jewish population will almost certainly be up to 60 percent. This has obvious implications for the socioeconomic characteristics of the Jewish population.

No less important are the expected political implications. Barring changes in ethnic voting patterns or a very large influx of immigrants from Western countries, the rightwing political parties that assumed power in 1977 are likely to remain in power for the foreseeable future. Moreover, as Orientalization increases over the years, it will take ever greater shifts in ethnic voting patterns or increases in Western immigration to swing political control back from "right" to "left."

Jewish majority in Israel

The shifting ethnic balance within the Jewish population has evolved as an issue only since 1948, but the relative growth of the Jewish and Arab populations and the issue of a Jewish demographic majority have been prominent themes since Jews began resettling in Palestine in the 1880s. On the eve of Israeli Independence, Arabs formed the majority in the population of Palestine at 66 percent. After the War of Independence, the Arab proportion of the population within the borders of the new state was down to 19 percent; in 1982, it stood at 17 percent. Mass immigration maintained the Jews' overwhelming majority in Israel's population; without immigration, the Jewish proportion would have dropped to about 65 percent in 1970,[7] and still lower by the end of 1982, when it was actually 83 percent.

Future changes in the proportion of Jews in Israel will depend not only on Jewish fertility and immigration but also on the patterns of Arab fertility. In the latest projections, it is assumed that Arab fertility will continue to decline, from 5 births per woman in 1980-84 to 2.8, on

Table 7. Projected Population Size and Percentages Jewish and Arab, by Territorial Boundary: 1980, 1985, 2000, 2015

(Minimum and maximum based on projections for Jewish population)

		1980	1985		2000		2015	
		Actual	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
			Israel					
Percentage Jewish	All ages	83.6	82.5	82.7	79.2	80.4	76.0	78.6
	0-14	76.7	76.1	76.3	71.5	74.6	69.0	75.0
	15-64	86.2	84.6	84.8	80.6	81.4	76.7	78.5
	65 and over	93.8	94.0	94.1	91.6	92.3	89.1	89.8
Percentage Arab	All ages	16.3	17.4	17.3	20.8	19.6	24.0	21.4
Total population (in thousands)		3,923	4,277	4,330	5,256	5,592	6,179	6,925
			Israel and the Occupied Areas					
Percentage Jewish	All ages	64.8	63.8	64.1	57.8	62.5	50.4	62.0
	0-14	55.0	52.9	53.2	43.1	50.7	35.1	53.5
	15-64	68.8	68.1	68.4	62.8	66.2	54.8	63.5
	65 and over	84.1	84.7	84.9	81.3	82.6	78.7	81.6
Total population (in thousands)	Jewish	3,283	3,534	3,585	4,160	4,496	4,698	5,444
	Arabs, Israel	640	744	744	1,096	1,096	1,481	1,481
	Arabs, Occupied Areas	1,132	1,262	1,262	1,938	1,603	3,142	1,851
	Total	5,055	5,540	5,591	7,194	7,195	9,321	8,776

Source: See Table 6.

Note: See Appendix Table (page 38) for assumptions used in minimum and maximum projections. In this Table 7, focusing on the relative size of the Jewish population, the minimum projections combine the low fertility and migration assumptions for the Jewish population, the high assumptions for the Arab population in the Occupied Areas, and the single series of assumptions for Arabs in Israel. The maximum projections combine the high assumptions for the Jewish population, the low assumptions for Arabs in the Occupied Area, and the single series for Arabs in Israel.

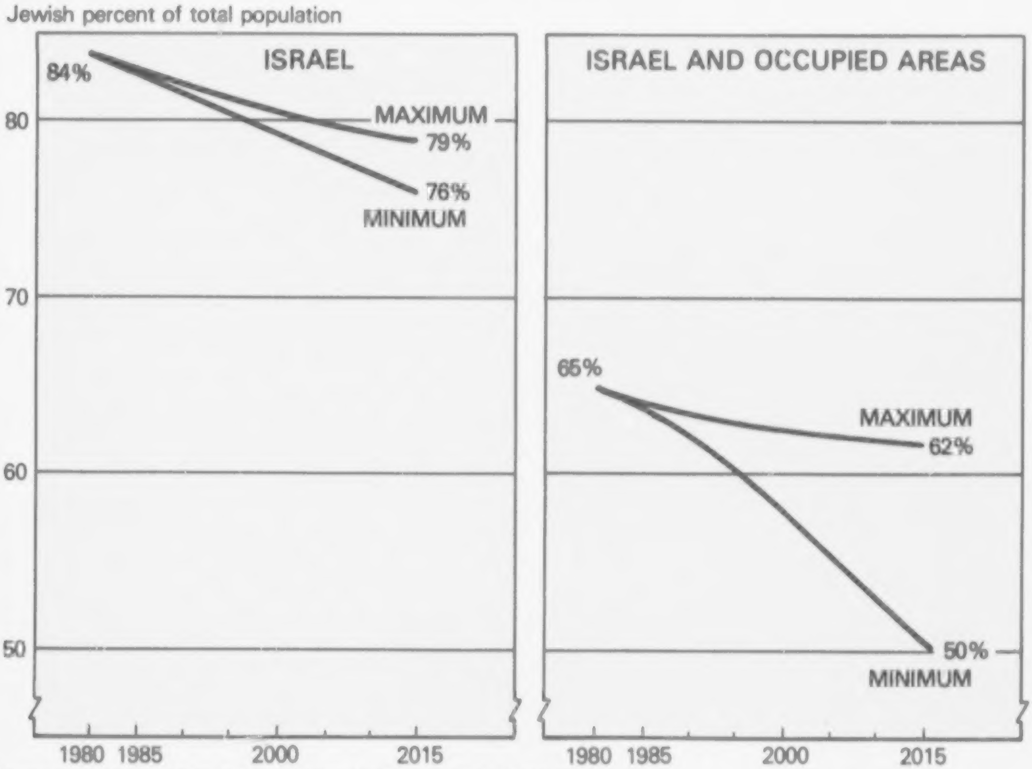
average, in 2010-14. The Jewish proportion will nevertheless decline even under maximum fertility and immigration assumptions for the Jewish sector, but the decline will be very small. In 2015, the Jewish proportion of Israel's population will be 79 percent according to the maximum projections and 76 percent according to the minimum projections shown in Table 7 and Figure 6. Since the Jewish population has an older age structure than the Arab minority, the Jewish percentage varies by age. Among children under age 15 the Jewish proportion in 2015 is lower than the Jewish percentage in the total population (75 versus 79 percent in the maximum projections) and the reverse is true for the elderly aged 65 and over (90 percent versus 79 percent).

Hence, it can be argued that the majority-minority positions of Jews and Arabs within Israel are not likely to change dramatically over the foreseeable future.

Jewish-Arab balance within Greater Israel

The picture, of course, would be very different if Israel were to annex the Occupied Areas and include their Arab populations witnin a Greater Israel. Even under the high assumptions for Jewish fertility and immigration, the Jewish proportion would then shrink to 62 percent in 2015, according to the maximum projection shown in Table 7 and Figure 6. Under the assumptions for the minimum projection it would be just 50 percent. Both these alternatives allow for con-

Figure 6. Jewish Percentage in Populations of Israel and Israel and Occupied Areas, Maximum and Minimum Projections: 1980-2015



Source: Authors' estimates, based on census and other official base data.

Note: Based on maximum and minimum projections shown in Table 7.

siderable fertility decline and continued emigration among Arabs in the present Occupied Areas.

Assuming that Israel continues as a democracy, the Arabs of these areas would become Israeli citizens with full rights, as are the Arabs now in Israel proper. The resulting Greater Israel would then be a bi-national, if not, indeed, an Arab-dominated state. If Israel chooses not to extend political rights to the incorporated populations, the extreme result would be a potentially inflammable "colonial" relationship between a minority of Jews and the large proportion of disenfranchised Arabs living within the boundaries of Greater Israel.

The issue of "cultural" dominance

The Zionist movement, which was the driving force behind modern resettlement of Jews in Palestine and the political foundation of the state of Israel, was clearly dominated by Europeans and Western culture, both politically and ideologically. Will the state of Israel remain European or "Western" in the future? Current projections indicate that the proportion of Jews of European or American origin is unlikely to exceed 30 percent of the total population within the present boundaries of Israel in the year 2015 and would be only some 22 percent of the population of a Greater Israel.

Hence, Israel might be transformed into a non-European, non-Western political and cultural society. This assumes that the political and cultural character of Oriental Jews is not radically altered by educational and socioeconomic progress over the next several generations.

The demographic basis of Israeli society and the ethnic-religious mosaic it reflects present complex issues which will continue to play key roles in Israel's future. The major questions raised in the 19th century by Zionists in Europe, again at the time Israel was founded, and in political debates today will remain salient into the 21st century. Will Israel be a Jewish state? Will it remain a Western society? Whatever the ideological, social, political, economic and cultural complexities of these questions, demographic processes will remain central factors among those determining the future of Israel. □

Appendix Table. Assumptions Used in Population Projections

Demographic measure and date	Population subgroup				
	Jewish population in Israel		Arab population in Israel	Arab population in Occupied Areas	
	Low assumption	High assumption	Single series	Low assumption	High assumption
Total fertility rate (births per woman)					
1980-84	2.7	2.7	5.0	7.5	7.5
1985-89	2.5	2.5	4.3	7.2	7.7
1990-94	2.3	2.5	3.8	6.8	6.9
1995-99	2.0	2.5	3.2	6.0	6.6
2000-04	2.0	2.5	3.0	5.5	6.3
2005-09	2.0	2.5	3.0	5.0	6.0
2010-14	2.0	2.5	2.8	4.5	5.5
Life expectancy (years)					
1980-84	74		71.5	58.5	
1985-89	75		72.5	61.5	
1990-94	75		73.5	63.5	
1995-99	76		73.5	65.5	
2000-04	76		73.5	65.5	
2005-09	76		73.5	65.5	
2010-14	76		73.5	65.5	
Average annual net migration (in thousands)					
1980-84	+5	+15	0	−20	−20
1985-89	+5	+15	0	−15	−22
1990-94	+5	+15	0	−10	−24
1995-99	+5	+15	0	− 5	−26
2000-04	+3	+10	0	− 5	−28
2005-09	+3	+10	0	− 5	−31
2010-15	+3	+10	0	− 5	−34

Note: See Tables 6 and 7 for the combinations of low and high assumptions used in the minimum and maximum projections shown in those tables.

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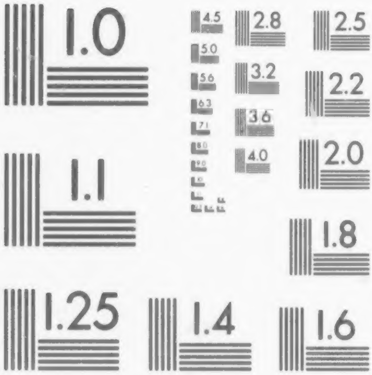
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